

FIG. 1

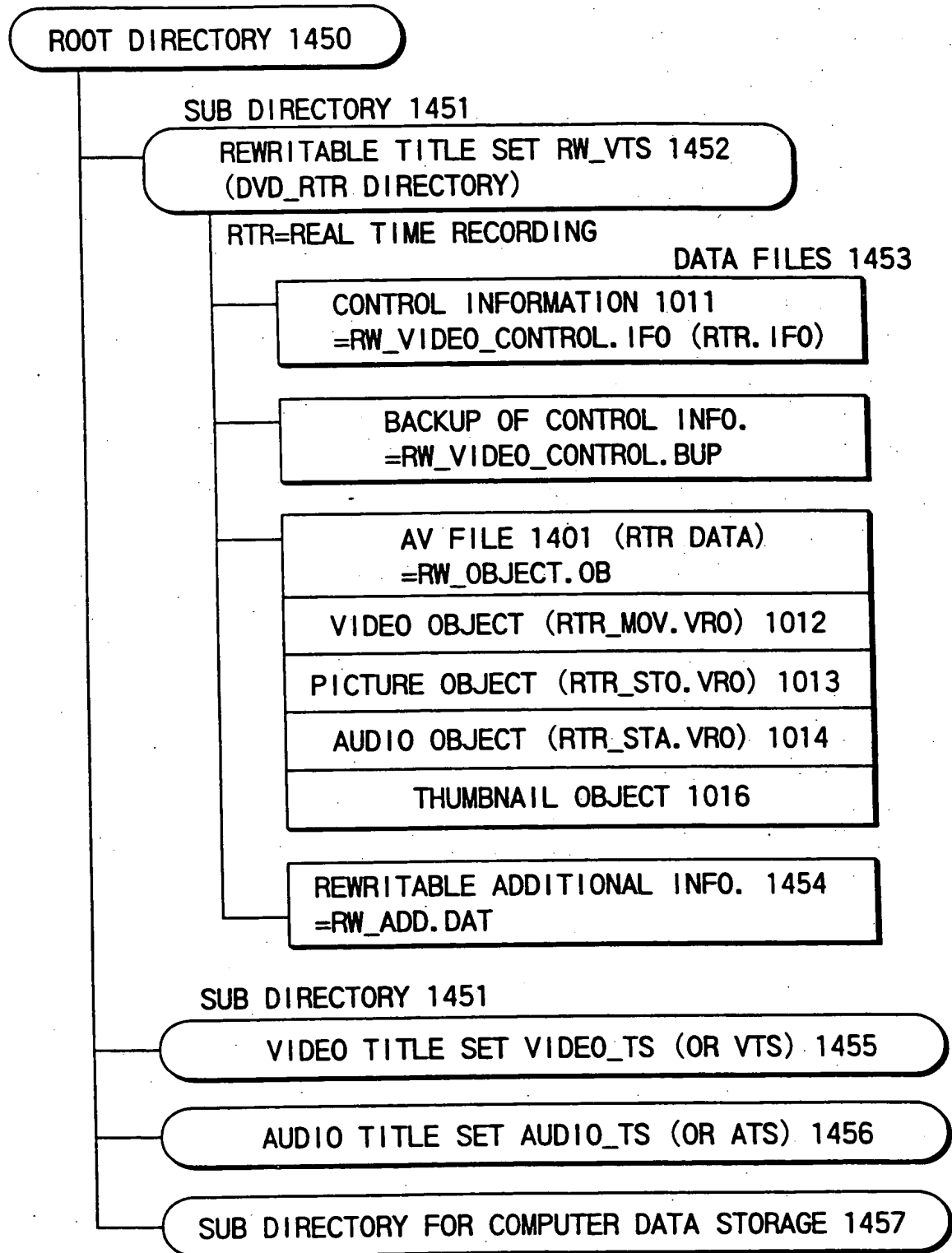


FIG. 2

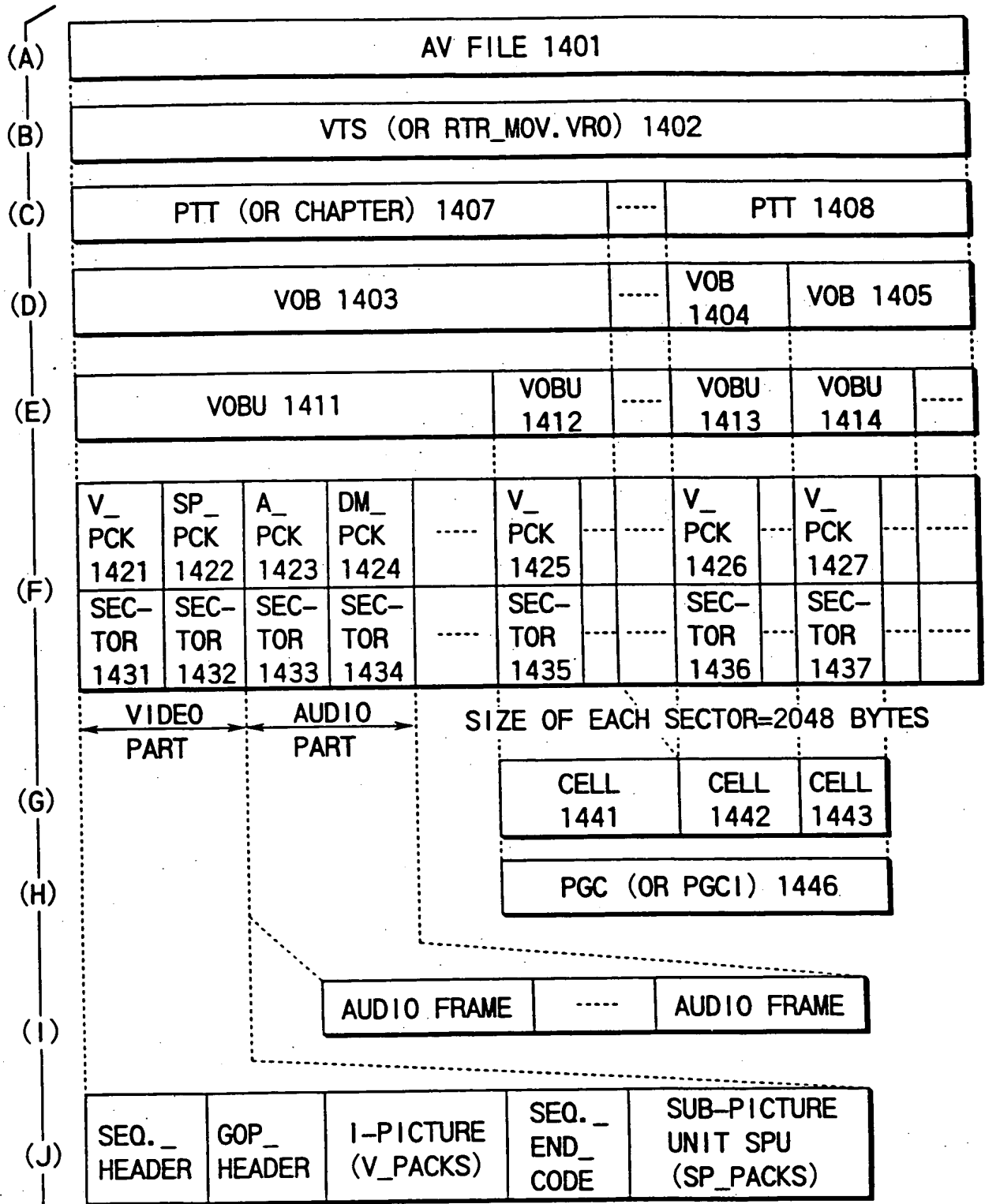


FIG. 3

| AV FILE 1401                 |                              |                              |                             |                             |                                |      |
|------------------------------|------------------------------|------------------------------|-----------------------------|-----------------------------|--------------------------------|------|
| VOB #3<br>(1)<br>1463        | VOB #1<br>1461               | VOB #3<br>(2)<br>1464        | VOB #2<br>1462              | UNRECORDED<br>AREA<br>1460  | VOB #3<br>(3)<br>1465          |      |
| EXTENT<br># $\gamma$<br>1473 | EXTENT<br># $\alpha$<br>1471 | EXTENT<br># $\delta$<br>1474 | EXTENT<br># $\beta$<br>1472 | EXTENT<br># $\zeta$<br>1470 | EXTENT<br># $\epsilon$<br>1475 |      |
| LSNa+1                       | LSNb+1                       | LSNc+1                       | LSNd+1                      | LSNe+1                      | LSNf+1                         | LSNg |
| LSNa+2                       | LSNb+2                       | LSNc                         | LSNd                        | LSNe                        | LSNf                           | ...  |
| ...                          | ...                          | LSNc                         | LSNd                        | LSNe                        | LSNf                           | ...  |
| LSNb                         | LSNb                         | LSNc                         | LSNd                        | LSNe                        | LSNf                           | LSNg |

←SMALLER LOGICAL SECTOR NUMBER (LSN)      LARGER LOGICAL SECTOR NUMBER (LSN) →  
←INNER SIDE OF OPTICAL DISC 1001      OUTER SIDE OF OPTICAL DISC 1001 →

FIG. 4

|   |  |     |
|---|--|-----|
| <p>CONTENTS OF<br/>ALLOCATION<br/>MAP TABLE<br/>1105</p> <p>DISTRIBUTION<br/>INFORMATION OF<br/>POSITIONS OF<br/>UNRECORDED<br/>AREA 1621</p> | NUMBER OF EXTENTS IN<br>UNRECORDED AREA 1601               | 1   |
|   | 1ST ADR. (LSN) OF 1ST<br>EXTENT IN UNRECORDED<br>AREA 1606 | e-a |
|   | SIZE (SECTORS) OF 1ST<br>EXTENT IN UNRECORDED<br>AREA 1614 | f-e |
|   | NUMBER OF EXTENTS<br>IN VOB #1 1602                        | 1   |
| <p>DISTRIBUTION<br/>INFORMATION OF<br/>POSITIONS OF<br/>RECORDED DATA<br/>AS TO VOB #1<br/>1622</p>   | 1ST ADR. (LSN) OF 1ST<br>EXTENT IN VOB #1 1607             | b-a |
|   | SIZE (SECTORS) OF 1ST<br>EXTENT IN VOB #1 1615             | c-b |
|   | NUMBER OF EXTENTS<br>IN VOB #2 1603                        | 1   |
|   | 1ST ADR. (LSN) OF 1ST<br>EXTENT IN VOB #2 1608             | d-a |
| <p>DISTRIBUTION<br/>INFORMATION OF<br/>POSITIONS OF<br/>RECORDED DATA<br/>AS TO VOB #2<br/>1623</p>   | SIZE (SECTORS) OF 1ST<br>EXTENT IN VOB #2 1616             | e-d |
|   | NUMBER OF EXTENTS<br>IN VOB #3 1604                        | 3   |
|   | 1ST ADR. (LSN) OF 1ST<br>EXTENT IN VOB #3 1609             | 1   |
|   | SIZE (SECTORS) OF 1ST<br>EXTENT IN VOB #3 1617             | b-a |
| <p>DISTRIBUTION<br/>INFORMATION OF<br/>POSITIONS OF<br/>RECORDED DATA<br/>AS TO VOB #3<br/>1624</p>   | 1ST ADR. (LSN) OF 2ND<br>EXTENT IN VOB #3 1610             | c-a |
|   | SIZE (SECTORS) OF 2ND<br>EXTENT IN VOB #3 1618             | d-c |
|   | 1ST ADR. (LSN) OF 3RD<br>EXTENT IN VOB #3 1611             | f-a |
|   | SIZE (SECTORS) OF 3RD<br>EXTENT IN VOB #3 1619             | g-f |

FIG. 5

PGC CONTROL INFO. (OR UD\_PGCIT) 1103

|   |
|---|
| PGC INFORMATION<br>MANAGEMENT INFO.<br>(OR UD_PGCIT) 1052     |
| PGC INFORMATION<br>SEARCH POINTER #1<br>(UD_PGC_I_SRP#1) 1053 |
| PGC INFORMATION<br>SEARCH POINTER #n<br>(UD_PGC_I_SRP#n) 1054 |
| PGC INFORMATION #1<br>(OR UD_PGC_I#1) 1055                    |
| PGC INFORMATION #i<br>(OR UD_PGC_I#i) 1056                    |
| PGC INFORMATION #n<br>(OR UD_PGC_I#n) 1057                    |

#i=ANY ONE OF #1 TO #n

|                                       |
|---------------------------------------|
| PGC GENERAL INFO.<br>(OR PGC_GI) 1061 |
| PROGRAM INFO.<br>(PGI#1)              |
| PROGRAM INFO.<br>(PGI#m)              |
| CELL ID #1<br>(OR CI_SRP#1)           |
| CELL ID #m 1151<br>(OR CI_SRP#m)      |
| CELL INFO. (CI#1)                     |
| CELL INFO. (CI#n)                     |

- \*1> PGC INFORMATION (OR UD\_PGC\_I) CAN DEFINE  
A GROUP OF ONE OR MORE PROGRAMS;
- \*2> EACH PROGRAM CAN BE FORMED OF ONE OR MORE CELLS;
- \*3> EACH CELL CAN BE SPECIFIED BY CELL ID (OR CI\_SRP);
- \*4> EACH CELL ID (OR CI\_SRP) CAN INDICATE POSITION  
(OR START ADDRESS) OF CELL INFORMATION (OR CI);
- \*5> EACH CELL INFORMATION (OR CI) CAN DETERMINE  
START TIME AND END TIME OF PRESENTATION OF CELL

FIG. 6

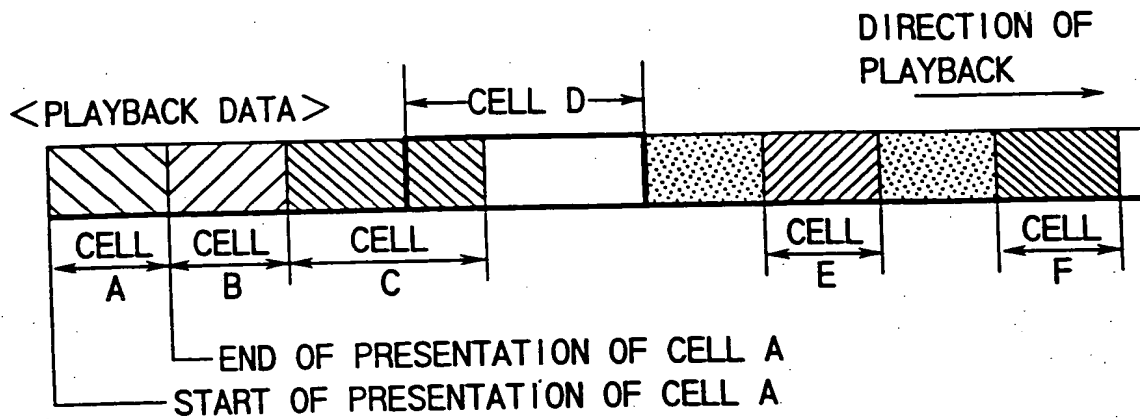


FIG. 7A

PGC INFORMATION (PGCI)

| PGC#1 1081        |            | PGC#2 1082        |            | PGC#3 1083        |            |
|-------------------|------------|-------------------|------------|-------------------|------------|
| NUMBER OF CELLS=3 |            | NUMBER OF CELLS=3 |            | NUMBER OF CELLS=5 |            |
| #1                | CELL A     | #1                | CELL D     | #1                | CELL E     |
| #2                | CELL B     | #2                | CELL E     | #2                | CELL A     |
| #3                | CELL C     | #3                | CELL F     | #3                | CELL D     |
| —                 | —          | —                 | —          | #4                | CELL B     |
| —                 | —          | —                 | —          | #5                | CELL E     |
| CELL ID           | CELL INFO. | CELL ID           | CELL INFO. | CELL ID           | CELL INFO. |
| CI_SRP #m=3       | CI #n=3    | CI_SRP #m=3       | CI #n=3    | CI_SRP #m=5       | CI #n=4    |

FIG. 7B

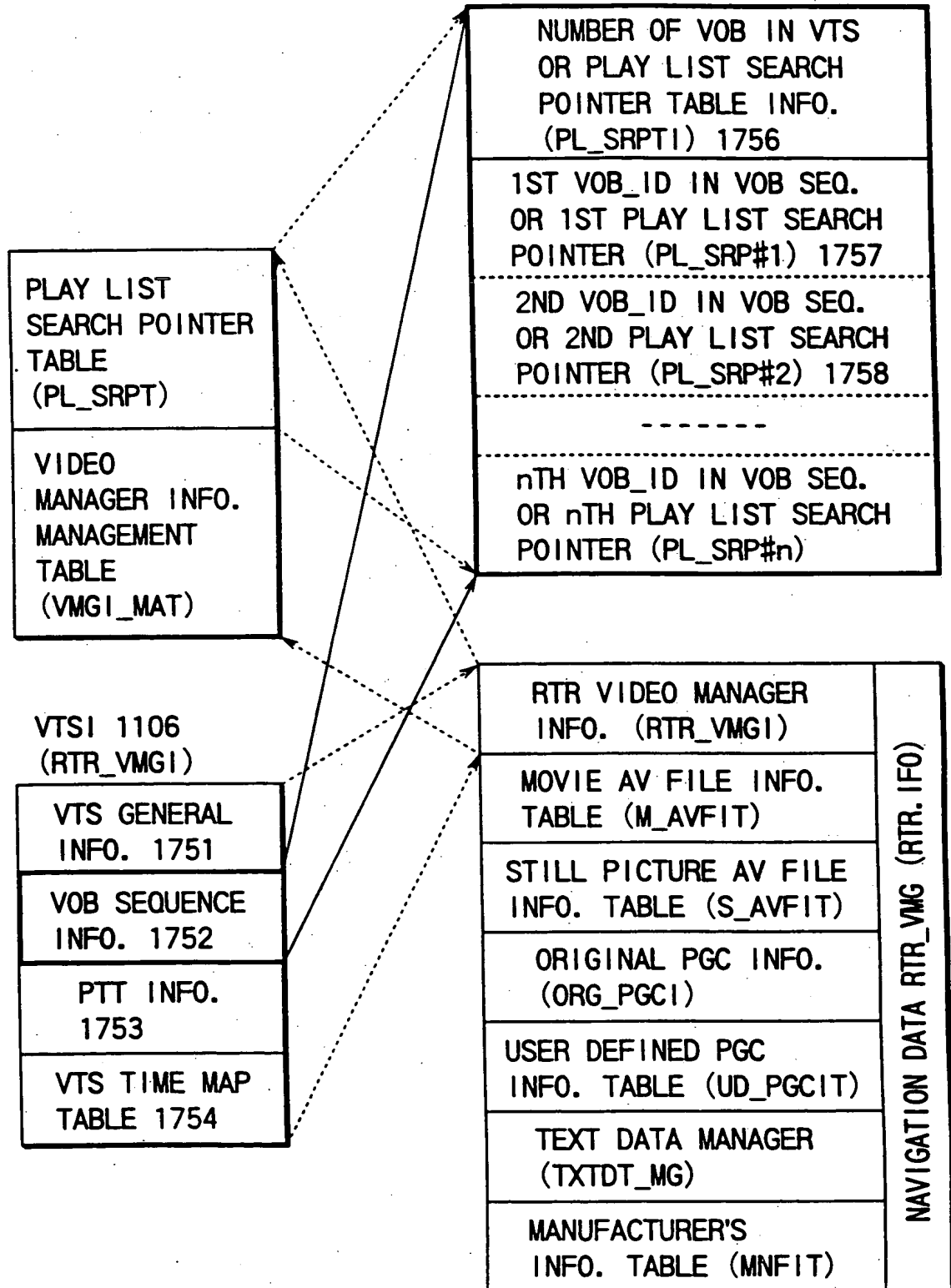


FIG. 8



FIG. 9A

|              |
|--------------|
| AV FILE 1401 |
|--------------|

FIG. 9B

|                           |
|---------------------------|
| VTS (OR RTR_MOV.VRO) 1402 |
|---------------------------|

FIG. 9C

|                          |                         |                          |                            |
|--------------------------|-------------------------|--------------------------|----------------------------|
| VOB#1<br>1461            | VOB#2<br>1462           | VOB#3<br>1763            | UNRECORDED<br>AREA 1460    |
| EXTENT# $\alpha$<br>1471 | EXTENT# $\beta$<br>1472 | EXTENT# $\gamma$<br>1473 | EXTENT# $\epsilon$<br>1475 |
|                          |                         | EXTENT# $\delta$<br>1474 | EXTENT# $\zeta$<br>1470    |

FIG. 9D

|              |
|--------------|
| AV FILE 1401 |
|--------------|

FIG. 9E

|   |
|---|
| VTS (OR RTR_MOV.VRO/RTR_STO.VRO/RTR_STA.VRO) 1402 |
|---|

|                          |                               |                            |                          |
|--------------------------|-------------------------------|----------------------------|--------------------------|
| M_VOB#                   |                               | S_VOB#                     |                          |
| VOB#A<br>1771            | VOB#B<br>1772                 | VOB#C<br>1773              | VOB#D<br>1774            |
| VOB#E<br>1775            | VOB#F<br>1776                 | VOB#G<br>1777              | VOB#H<br>1778            |
| VOB#I<br>1779            | THUMBNA IL<br>OBJECTS<br>1016 |                            |                          |
| VIDEO<br>OBJECTS<br>1012 | AUDIO<br>OBJECTS<br>1014      | PICTURE<br>OBJECTS<br>1013 | AUDIO<br>OBJECTS<br>1014 |
| RTR_MOV.VRO              |                               | RTR_STO.VRO                |                          |

FIG. 9F

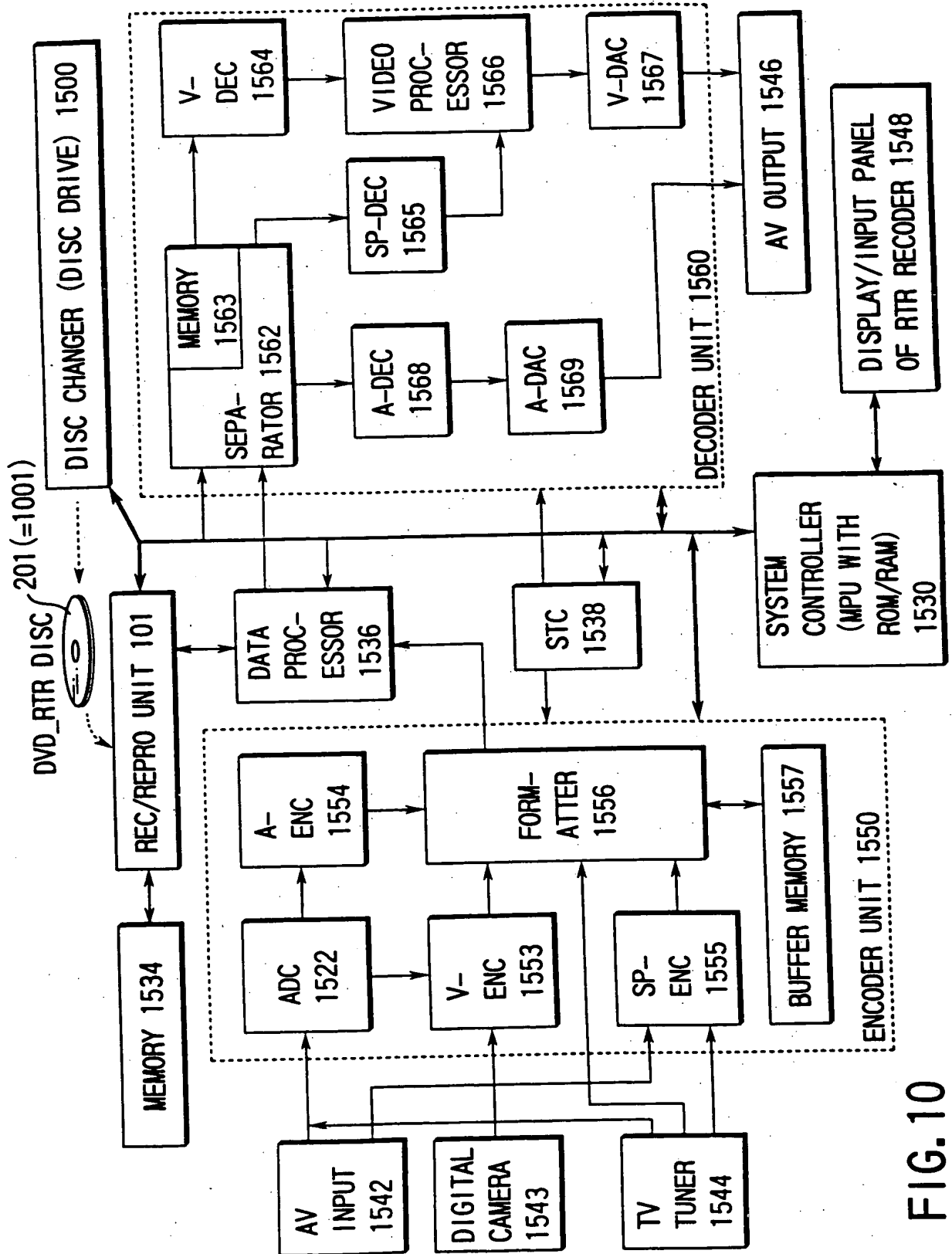


FIG. 10

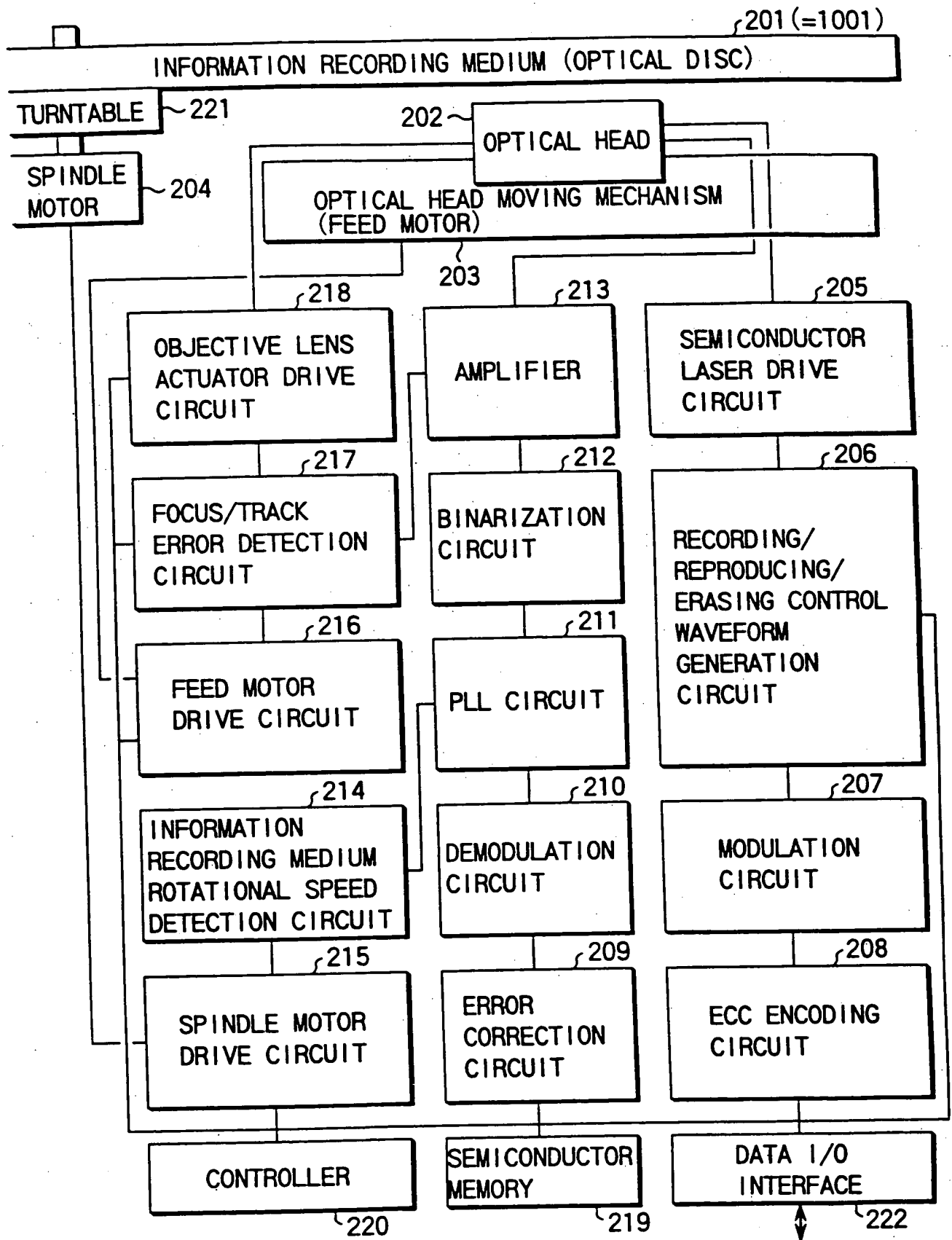


FIG. 11

REPRODUCED SIGNAL c  
(RECORDING SIGNAL d)

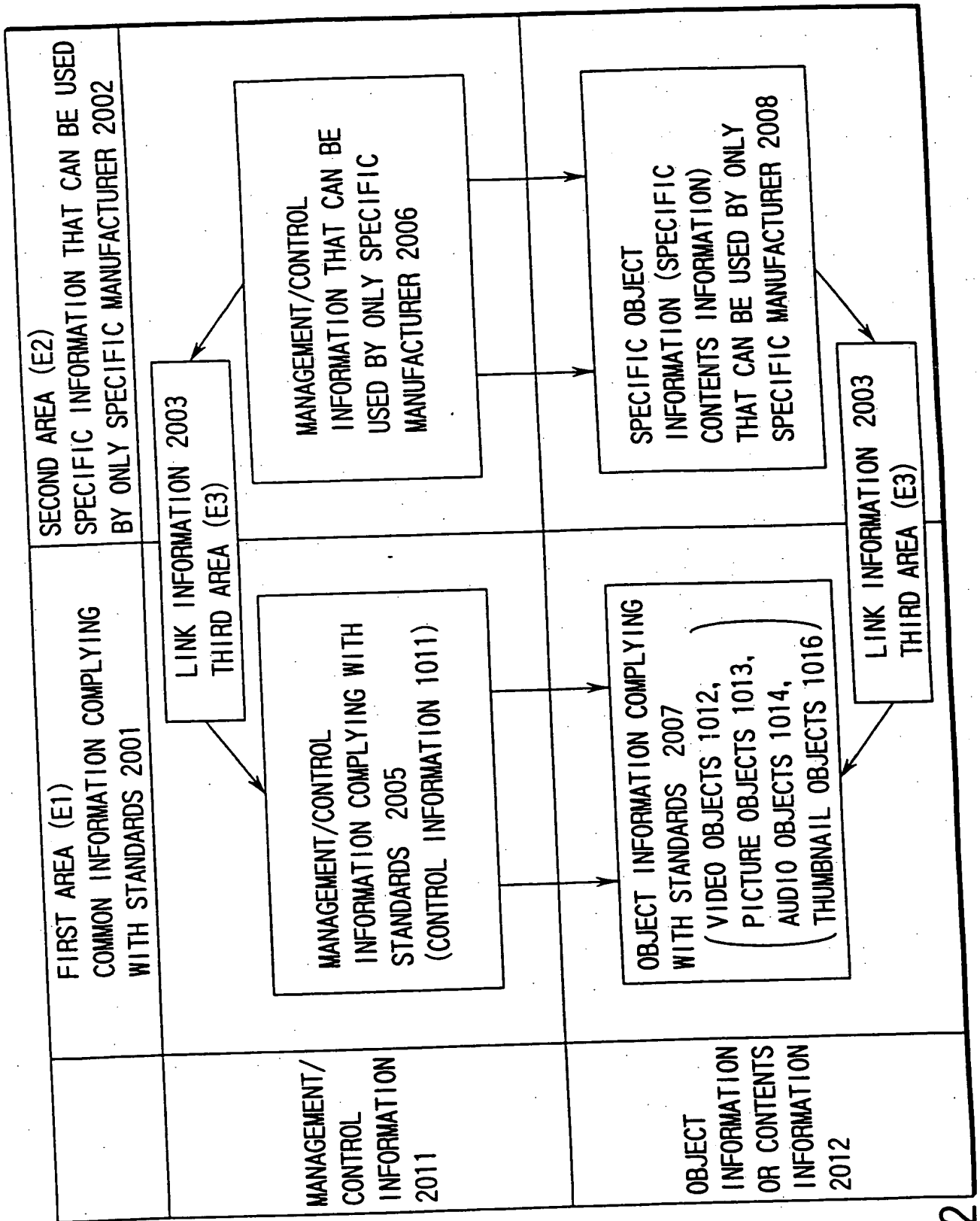


FIG. 12

| CLASSIFICATION ITEM 2020                            | DETAILED INFORMATION CONTENTS 2021  |
|---|---|
| LINK INFORMATION SIZE 2022                          | DATA SIZE OF ONE LINK INFORMATION (TOTAL OF ALL PIECES OF INFORMATION WHICH FOLLOW) (INDICATED BY NUMBER OF SECTORS USED (INTEGER MULTIPLE OF 2,048 BYTES)) 2030  |
| IDENTIFICATION INFORMATION OF LINK INFORMATION 2023 | ID INFORMATION OR LINK INFORMATION 2031<br>NUMBER OF LINK INFORMATION 2033  |
| INFORMATION PERTAINING TO DRIVE MANUFACTURER 2024   | ID INFORMATION OF CHARACTER CODE FOR DRIVE MANUFACTURER USE 2033<br>DRIVE MANUFACTURER GROUP ID INFORMATION (ID OF GROUP FORMED BY A PLURALITY OF MANUFACTURERS) OF DRIVE MANUFACTURER GROUP THAT CAN USE SPECIFIC INFORMATION ASSOCIATED WITH THIS LINK INFORMATION 2034<br>DRIVE MANUFACTURER ID INFORMATION (DRIVE MANUFACTURER NAME OR THE LIKE) OF DRIVE MANUFACTURER THAT CAN USE SPECIFIC INFORMATION ASSOCIATED WITH THIS LINK INFORMATION 2035<br>TIME INFORMATION (SETTING DATE OF DRIVE MANUFACTURER ID OR THE LIKE) PERTAINING TO DRIVE MANUFACTURER THAT CAN USE SPECIFIC INFORMATION ASSOCIATED WITH THIS LINK INFORMATION 2036<br>ADDITIONAL INFORMATION PERTAINING TO THIS LINK INFORMATION WHICH CAN BE SET BY DRIVE MANUFACTURER 2037 |
| FUNCTION INFORMATION 2025                           | FUNCTION INFORMATION (CATEGORY ID) WHICH PERTAINS TO SPECIFIC INFORMATION AND IS COMMON TO A PLURALITY OF COMPANIES 2040<br>INFORMATION PERTAINING TO LINK PATTERN OF SPECIFIC INFORMATION ASSOCIATED WITH THIS LINK INFORMATION 2041   |

FIG.13A

| CLASSIFICATION ITEM 2020  | DETAILED INFORMATION CONTENTS 2021  |
|---|---|
| FUNCTION INFORMATION 2025   | CORRECTION CONTENT AUTOMATIC INSPECTION INFORMATION FOR AUTOMATICALLY CHANGING/CORRECTING CONTENTS OF SPECIFIC INFORMATION THAT CAN BE USED BY ONLY SPECIFIC MANUFACTURER IN ACCORDANCE WITH CHANGE IN CONTENTS OF COMMON INFORMATION COMPLYING WITH STANDARDS 2042 |
| LINK DESIGNATION LOCATIONS OF LINK SOURCE AND LINK DESTINATION, LINK DESIGNATION RANGE, AND PRIORITY ORDER INFORMATION 2026 | NUMBER OF LINK DESIGNATION LOCATIONS IN COMMON INFORMATION COMPLYING WITH STANDARDS 2044  |
|   | FIRST PRIORITY LINK DESIGNATION LOCATION INFORMATION IN COMMON INFORMATION COMPLYING WITH STANDARDS 2045  |
|   | FIRST PRIORITY LINK DESIGNATION LOCATION INFORMATION IN COMMON INFORMATION COMPLYING WITH STANDARDS 2046  |
|   | SECOND PRIORITY LINK DESIGNATION LOCATION INFORMATION IN COMMON INFORMATION COMPLYING WITH STANDARDS 2047   |
|   | SECOND PRIORITY LINK DESIGNATION LOCATION INFORMATION IN COMMON INFORMATION COMPLYING WITH STANDARDS 2048   |
|   | .   |
|   | NUMBER OF LINK DESIGNATION LOCATIONS IN SPECIFIC INFORMATION THAT CAN BE USED BY ONLY SPECIFIC MANUFACTURER 2054  |
|   | FIRST PRIORITY LINK DESIGNATION LOCATION INFORMATION IN SPECIFIC INFORMATION 2055   |
|   | FIRST PRIORITY LINK DESIGNATION LOCATION INFORMATION IN SPECIFIC INFORMATION 2056   |
|   | .   |

FIG.13B

| CLASSIFICATION ITEM 2020   | DETAILED INFORMATION CONTENTS 2021  |
|--|---|
| LINK DESIGNATION<br>LOCATIONS OF LINK SOURCE<br>AND LINK DESTINATION,<br>LINK DESIGNATION RANGE,<br>AND PRIORITY ORDER<br>INFORMATION 2026 | SECOND PRIORITY LINK DESIGNATION LOCATION<br>INFORMATION IN SPECIFIC INFORMATION 2057   |
|  | SECOND PRIORITY LINK DESIGNATION LOCATION<br>INFORMATION IN SPECIFIC INFORMATION 2058   |
|  | :   |
| TIME INFORMATION<br>PERTAINING TO THIS LINK<br>INFORMATION 2027  | LAST RECORDING/CHANGE TIME (DATE)<br>INFORMATION OF THIS LINK INFORMATION 2061  |
|  | EFFECTIVE PERIOD INFORMATION OF THIS LINK<br>INFORMATION (DUE DATE OF LINK INFORMATION) 2062  |
|  | TIME INFORMATION PERTAINING TO SPECIFIC<br>INFORMATION (TIME BAND INFORMATION IN WHICH<br>SPECIFIC INFORMATION CAN BE USED OR THE LIKE) 2063                |
|  | USABLE/UNUSABLE DETERMINATION FLAG FOR SPECIFIC INFORMATION 2071  |
|  | PASSWORD INFORMATION FOR SETTING SECURITY 2072  |
| SPECIFIC INFORMATION<br>USABLE CONDITION<br>INFORMATION 2028   | MODEL INFORMATION THAT CAN USE SPECIFIC INFORMATION<br>(OLDEST MODEL THAT CAN USE SPECIFIC INFORMATION) 2073  |
|  | INFORMATION PERTAINING TO USABLE CONDITION FOR SPECIFIC<br>INFORMATION (USER RANGE DESIGNATION THAT ALLOWS USE OF<br>SPECIFIC INFORMATION OR THE LIKE) 2074 |
|  | SPACE INFORMATION PERTAINING TO USE CONDITION OF<br>SPECIFIC INFORMATION (USABLE REGION OR THE LIKE) 2075   |

FIG.13C

| NUMBER OF<br>PIECES OF ID<br>INFORMATION<br>2081 | ATTRIBUTE<br>OF ID<br>INFORMATION<br>2082                  | VARIOUS<br>EMBODIMENTS<br>2083  | DETAILED<br>CONTENTS OF<br>EMBODIMENTS 2084   | EFFECT OF<br>EMBODIMENTS<br>2085   |
|--|--|---|---|--|
| INDEPENDENT<br>INFORMATION<br>2091               | ORIGINAL ID<br>INFORMATION<br>(1/0<br>INFORMATION)<br>2095 | SYSTEMATICALLY MANAGE<br>ID INFORMATION IN<br>UNITS OF DRIVE<br>MANUFACTURERS BY<br>SPECIFIC ORGANIZATION | (DVD FORUM OR THE<br>LIKE) ASSIGN ID<br>INFORMATION TO EACH<br>DRIVE MANUFACTURER<br>BY THIRD PARTY<br>COMMON ORGANIZATION                                | <ul style="list-style-type: none"> <li>ID DUPLICATION AMONG<br/>DIFFERENT DRIVE<br/>MANUFACTURERS CAN BE AVOIDED</li> <li>THE NUMBER OF DIGITS<br/>REQUIRED FOR ID<br/>INFORMATION CAN BE MINIMIZED</li> <li>NO ID INFORMATION MANAGEMENT<br/>ORGANIZATION IN UNITS OF<br/>DRIVE MANUFACTURERS IS<br/>REQUIRED</li> <li>ID INFORMATION CAN BE<br/>ARBITRARILY SET</li> </ul> |
|  |  | SET ORIGINAL ID<br>INFORMATION BY EACH<br>DRIVE MANUFACTURER  | NO MANAGEMENT BY<br>SPECIFIC<br>ORGANIZATION<br>DETERMINE<br>INFORMATION OF<br>UNSUPPORTED<br>MANUFACTURER WHEN<br>SPECIFIC INFORMATION<br>CANNOT BE READ |  |

FIG. 14A



| NUMBER OF<br>PIECES OF ID<br>INFORMATION<br>2081 | ATTRIBUTE<br>OF ID<br>INFORMATION<br>2082 | VARIOUS<br>EMBODIMENTS<br>2083   | DETAILED<br>CONTENTS OF<br>EMBODIMENTS 2084   | EFFECT OF<br>EMBODIMENTS<br>2085  |
|--|---|--|---|---|
| INDEPENDENT<br>INFORMATION<br>2091               | CHARACTER<br>INFORMATION<br>2096          | DIRECTLY DESCRIBE<br>DRIVE MANUFACTURER<br>NAME IN LINK<br>INFORMATION   | DESCRIBE<br>MANUFACTURER NAME<br>USING CHARACTER<br>CODE 2034 (JIS CODE<br>OR THE LIKE) SET IN<br>LINK INFORMATION  | <ul style="list-style-type: none"> <li>•DRIVE MANUFACTURER ID<br/>INFORMATION CAN BE<br/>EASILY SET</li> <li>•ID DUPLICATION AMONG<br/>DIFFERENT DRIVE<br/>MANUFACTURERS HARDLY OCCURS</li> </ul>                                       |
|  |   | DESIGNATE CORRE-<br>SPONDING NUMBER FROM<br>DRIVE MANUFACTURER<br>LIST TABLE<br>(DESCRIBED BY<br>CHARACTER<br>INFORMATION) | REGISTER MANUFACTURER<br>NAME IN LIST TABLE<br>SET AT DIFFERENT<br>POSITION IN UNITS OF<br>DISCS, AND DESIGNATE<br>THE REGISTERED NUMBER<br>IN LINK INFORMATION | <ul style="list-style-type: none"> <li>•NO CHARACTER CODE NEED BE<br/>SET IN LINK INFORMATION</li> <li>•REGISTERED MANUFACTURER NAME<br/>CAN BE DETECTED</li> <li>•INFORMATION SIZE IN LINK<br/>INFORMATION CAN BE MINIMIZED</li> </ul> |
|  |   | DESCRIBE IN<br>CHARACTER<br>INFORMATION DRIVE<br>MODEL NUMBER FOR<br>WHICH LINK<br>INFORMATION IS SET                      | DETERMINE BASED ON<br>DRIVE MODEL NUMBER<br>THAT ONLY<br>MANUFACTURER WHICH<br>SELLS THAT MODEL CAN<br>USE SPECIFIC<br>INFORMATION                              | <ul style="list-style-type: none"> <li>•LINK INFORMATION CAN BE<br/>FLEXIBLY SET UP IN UNITS OF<br/>DRIVE MODELS</li> <li>•A PLURALITY OF PIECES OF ID<br/>INFORMATION CAN BE ASSIGNED</li> </ul>                                       |

FIG.14B

| NUMBER OF<br>PIECES OF ID<br>INFORMATION<br>2081  | ATTRIBUTE<br>OF ID<br>INFORMATION<br>2082                            | VARIOUS<br>EMBODIMENTS<br>2083  | DETAILED<br>CONTENTS OF<br>EMBODIMENTS 2084   | EFFECT OF<br>EMBODIMENTS<br>2085   |
|---|--|---|---|--|
| COMBINE<br>INDEPENDENT<br>INFORMATION<br>WITH<br>INFORMATION<br>IN RIGHT<br>COLUMN 2092 | INFORMATION<br>COMBINED<br>WITH TIME<br>INFORMATION<br>2097          | USE TIME (BCD<br>FORMAT) 2036 WHEN<br>DRIVE MANUFACTURER<br>ID INFORMATION IS<br>SET TOGETHER | DETERMINE MANUFACTURER THAT<br>CAN USE SPECIFIC<br>INFORMATION FROM TIME<br>INFORMATION IN BCD<br>FORMAT AND DRIVE<br>MANUFACTURER ID INFORMATION | <ul style="list-style-type: none"> <li>ID DUPLICATION AMONG<br/>DIFFERENT DRIVE<br/>MANUFACTURERS CAN BE<br/>AVOIDED</li> <li>UNSUPPORTED<br/>MANUFACTURER<br/>RECOGNITION ERROR<br/>RATE CAN BE GREATLY<br/>REDUCED BY COMBINING<br/>TWO PIECES OF<br/>INFORMATION</li> </ul> |
|   | INFORMATION<br>COMBINED<br>WITH<br>ADDITIONAL<br>INFORMATION<br>2098 | USE ADDITIONAL<br>INFORMATION 2037<br>SET BY DRIVE<br>MANUFACTURER<br>TOGETHER                | DETERMINE MANUFACTURER THAT<br>CAN USE SPECIFIC<br>INFORMATION FROM ADDITIONAL<br>INFORMATION AND DRIVE<br>MANUFACTURER ID                        |  |
|   | INFORMATION<br>COMBINED<br>WITH<br>PASSWORD<br>2099                  | USE PASSWORD<br>INFORMATION 2072<br>FOR SETTING<br>SECURITY TOGETHER                          | DETERMINE MANUFACTURER THAT<br>CAN USE SPECIFIC<br>INFORMATION FROM PASSWORD<br>AND DRIVE MANUFACTURER ID   |  |

FIG. 14C

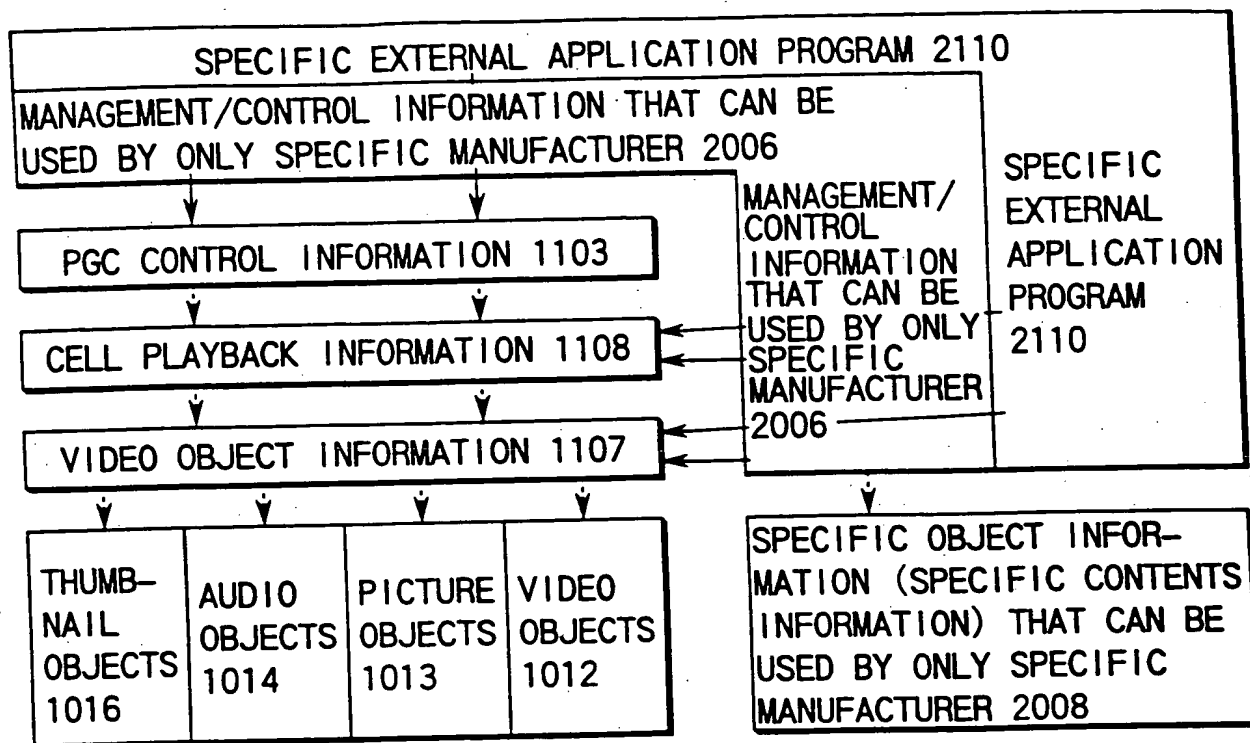


FIG. 15

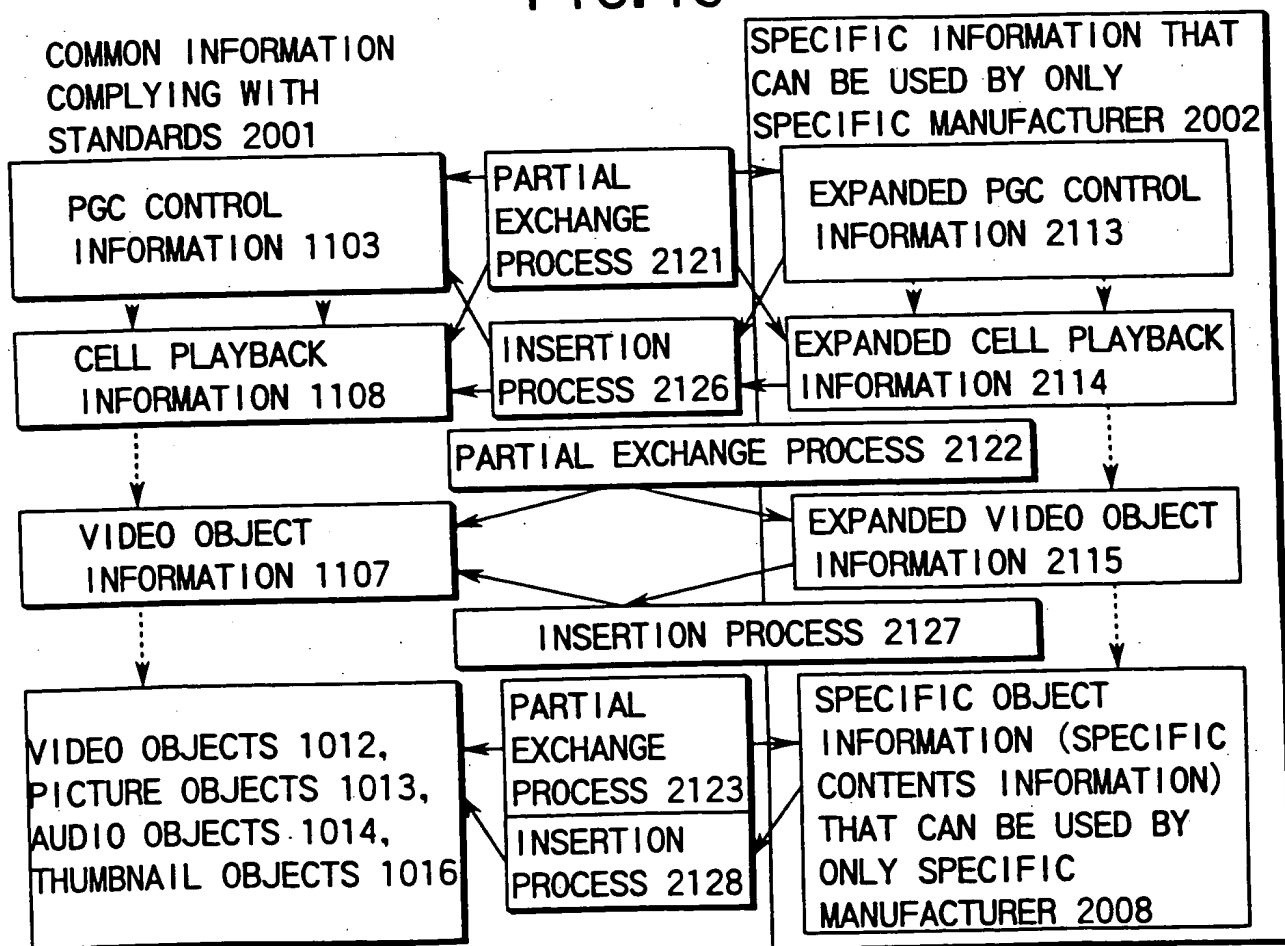


FIG. 16

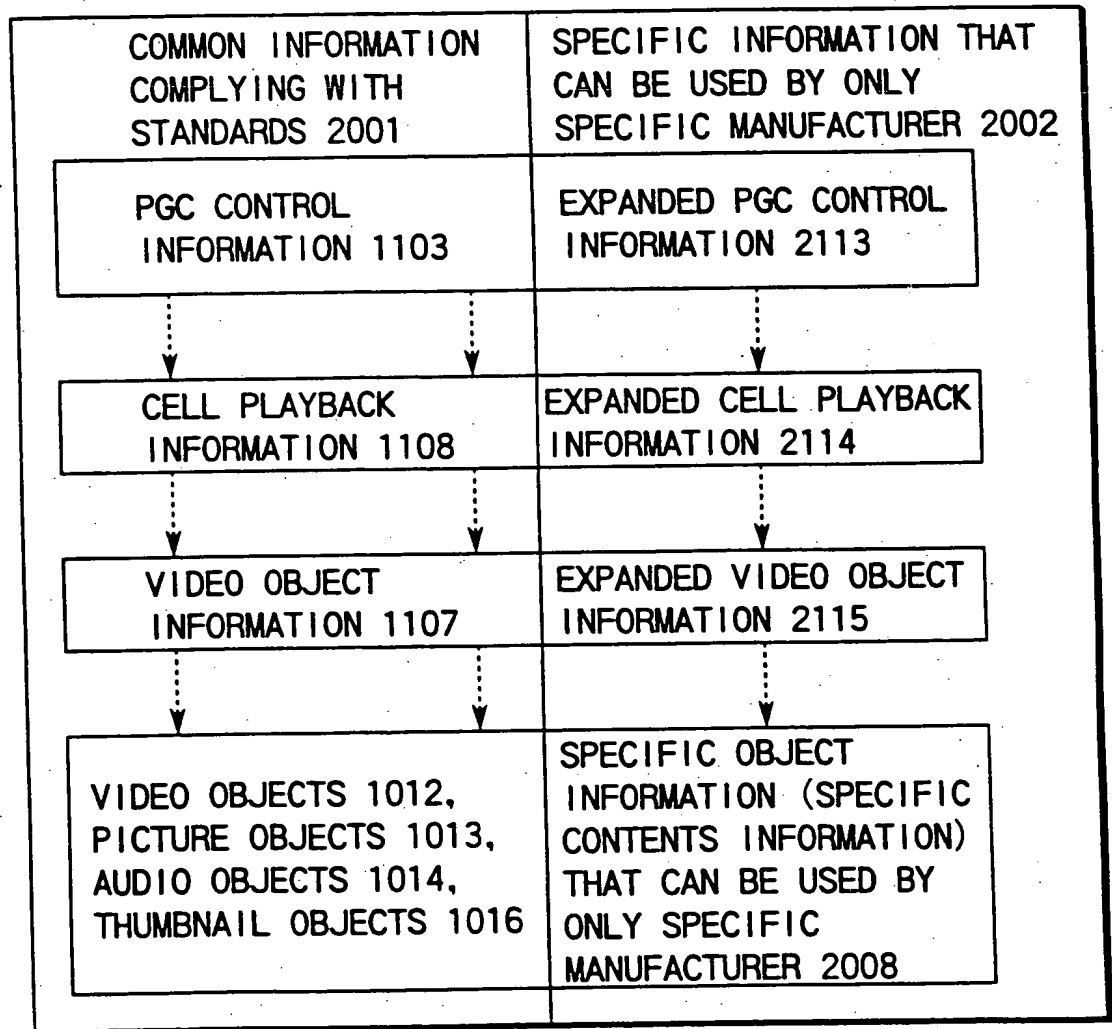


FIG. 17

| CATEGORY ID 2040 | LINK PATTERN 2041 | OUTLINE OF FUNCTION CONTENTS 2131  | RELEVANT OBJECT INFORMATION CONTENT RANGE 2132 | MANAGEMENT/CONTROL INFORMATION COMPLYING WITH STANDARDS OF LINKED OBJECTS 2133 | THIRD PARTY INFORMATION THAT CAN BE COMMONLY USED 2134 |
|------------------|-------------------|--|--|--|--|
| 1                | A                 | SYSTEMATICALLY MANAGE INFORMATION RECORDED IN RECORDING MULTILAYERS            | ALL  | PGC_info. 1103<br>PGC_info. 1107   | COMPANIES B AND C                                      |
| 2                | A                 | VIDEO RECORDING USING PROGRAM RESERVATION INFORMATION                          | ALL  | ALL PIECES OF MANAGEMENT/CONTROL INFORMATION                                   | COMPANIES B AND C                                      |
| 3                | A                 | SEARCH PROCESS USING CURRY INFORMATION   | ALL  | ALL PIECES OF MANAGEMENT/CONTROL INFORMATION                                   | COMPANY D  |
| 4                | B                 | PLAY BACK/DISPLAY VIDEO/STILL PICTURE INFORMATION RECORDED IN DIFFERENT FORMAT | PTT 1408                                       | VOB_info. 1107<br>OBJECT 2007  | COMPANY B  |
| 5                | B                 | VARIABLE SPEED PLAYBACK PROCESS  | ALL  | Cell_info. 1108  | COMPANY C  |
| 6                | B                 | SIMULTANEOUSLY PLAY BACK/DISPLAY AFTER-RECORDED INFORMATION                    | ALL  | Cell_info. 1108  | COMPANY A ONLY   |

FIG.18A

| CATEGORY<br>ID 2040 | LINK<br>PATTERN<br>2041 | OUTLINE OF FUNCTION<br>CONTENTS 2131                | RELEVANT OBJECT<br>INFORMATION<br>CONTENT RANGE<br>2132 | MANAGEMENT/CONTROL<br>INFORMATION COMPLYING<br>WITH STANDARDS OF<br>LINKED OBJECTS 2133 | THIRD PARTY<br>INFORMATION THAT<br>CAN BE COMMONLY<br>USED 2134 |
|---------------------|-------------------------|---|---|---|---|
| 7                   | B                       | DISPLAY/OUTPUT<br>SPECIAL EDIT VIDEO<br>INFORMATION | PTT 1408  | Cell_info. 1108   | COMPANY B   |
| 8                   | C                       | CM/COMMENT AUTOMATIC<br>INSERTION                   | PTT 1407  | Cell_info. 1108   | COMPANIES C<br>AND D  |
| 9                   | D                       | ADD SECURITY FUNCTION                               | PTT 1407  | VOB_info. 1107  | COMPANY A ONLY  |
| 10                  | D                       | SIMULTANEOUS DISPLAY<br>OF SMALL WINDOW             | PTT 1407  | Cell_info. 1108   | COMPANY A ONLY  |
| 11                  | D                       | SET IMAGE QUALITY<br>IMPROVING PARAMETER            | ALL   | VOB_info. 1107  | COMPANY D   |
| 12                  | D                       | SET USER RECORDING/<br>PLAYBACK LOCATION            | ALL   | Cell_info. 1108   | COMPANIES B<br>AND C  |

FIG. 18B

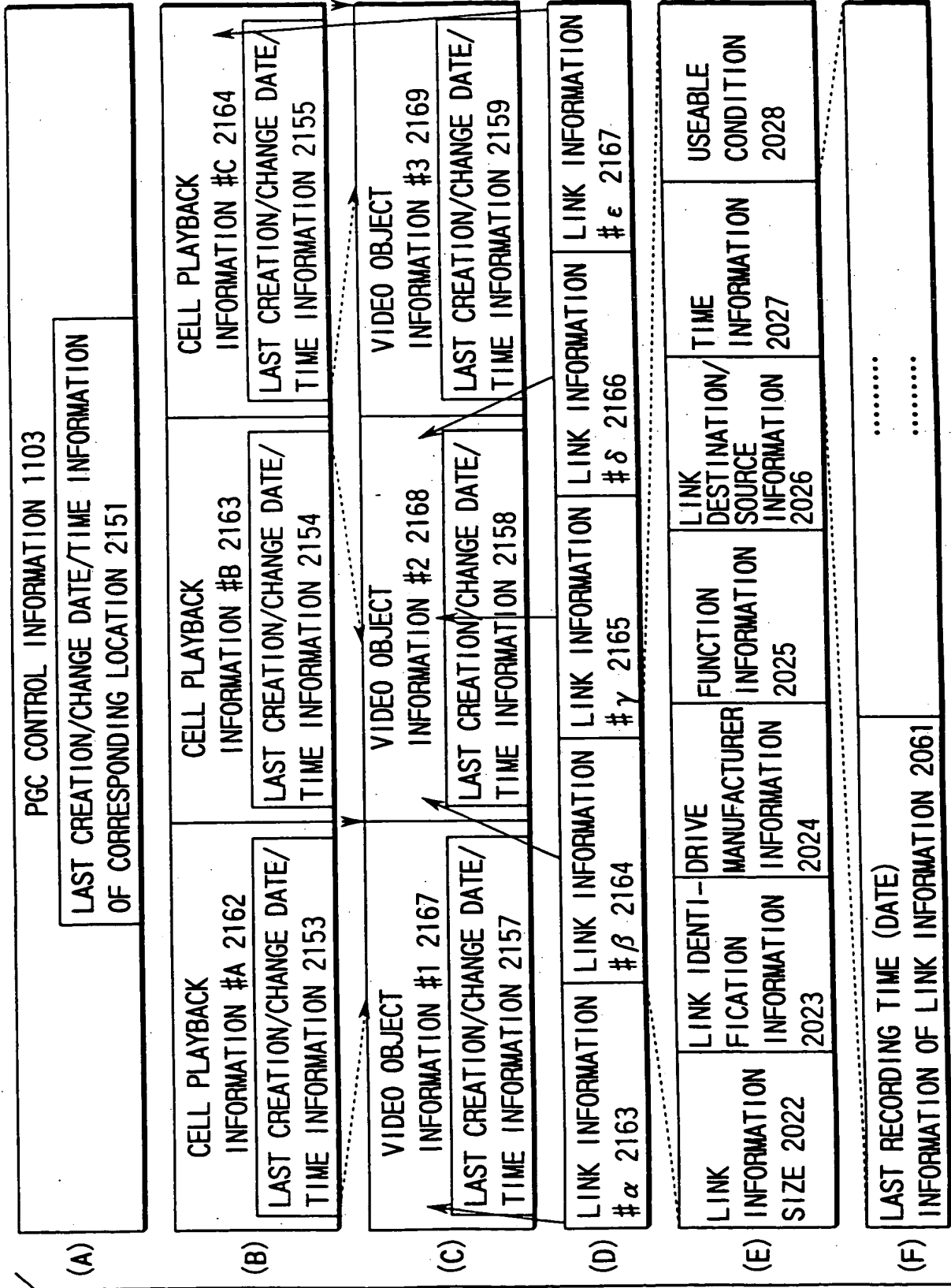


FIG. 20

|                                   |  |   |  |
|-----------------------------------|--|---|--|
| (A) EDIT CONTROL INFORMATION 1023 |  |   |  |
| (B) EDIT HISTORY INFORMATION 2141 |  | LINK INFORMATION<br>2003  | ...  |
| (C)                               | DATE/TIME<br>INFORMATION OF<br>LATEST EDIT<br>PROCESS 2144             | DATE/TIME<br>INFORMATION OF<br>SECOND LATEST<br>EDIT PROCESS 2145 | DATE/TIME<br>INFORMATION OF<br>THIRD LATEST EDIT<br>PROCESS 2146 |
|                                   | INFORMATION<br>PERTAINING TO<br>DETAILED EDIT<br>HISTORY CONTENTS 2149 |   |  |

FIG. 19

| DESIGNATION<br>LOCATION                       | SETTING METHOD OF<br>DESIGNATION LOCATION                                   | DESCRIPTION OF<br>PRACTICAL METHOD   | EFFECTS (MERITS) OF<br>RESPECTIVE EMBODIMENTS   |
|---|---|--|---|
| ARBITRARY<br>LOCATION<br>CAN BE<br>DESIGNATED | DIRECTLY INSERT<br>"POINTER<br>INFORMATION" IN<br>COMMON INFORMATION<br>[A] | <ul style="list-style-type: none"> <li>•DIRECTLY INSERT "POINTER INFORMATION" IN COMMON INFORMATION 2001</li> <li>•DESCRIBE TAG INFORMATION AND POINTER SIZE INFORMATION AT HEAD POSITION OF POINTER INFORMATION TO AVOID CONFUSION WITH OTHER COMMON INFORMATION</li> <li>•DESIGNATE ID (OR NUMBER) OF CORRESPONDING LINK INFORMATION IN POINTER INFORMATION</li> </ul> | <ul style="list-style-type: none"> <li>•ARBITRARY LOCATION AND RANGE IN COMMON INFORMATION 2001 CAN BE DESIGNATED</li> <li>•SINCE POINTER INFORMATION SIZE IS SMALL, ENTIRE COMMON INFORMATION 2001 IS FREE FROM ANY LARGE INCREASE IN INFORMATION SIZE DUE TO INSERTION</li> </ul> |

FIG. 21A



| DESIGNATION LOCATION                 | SETTING METHOD OF DESIGNATION LOCATION                       | DESCRIPTION OF PRACTICAL METHOD   | EFFECTS (MERITS) OF RESPECTIVE EMBODIMENTS   |
|--------------------------------------|--|---|--|
| ARBITRARY LOCATION CAN BE DESIGNATED | DIRECTLY INSERT "LINK INFORMATION" IN COMMON INFORMATION [B] | <ul style="list-style-type: none"> <li>•DIRECTLY INSERT "LINK INFORMATION" IN COMMON INFORMATION 2001</li> <li>•DESCRIBE TAG INFORMATION AND POINTER SIZE INFORMATION AT HEAD POSITION OF POINTER INFORMATION TO AVOID CONFUSION WITH OTHER COMMON INFORMATION</li> <li>•DISTRIBUTE INDIVIDUAL LINK INFORMATION IN COMMON INFORMATION 2001</li> </ul> | <ul style="list-style-type: none"> <li>•ARBITRARY LOCATION AND RANGE IN COMMON INFORMATION 2001 CAN BE DESIGNATED</li> <li>•SINCE LINK INFORMATION CAN BE DIRECTLY PLAYED BACK IN COMMON INFORMATION 2001, QUICK ACCESS TO 2002 IS ACHIEVED</li> </ul> |

FIG.21B

| DESIGNATION LOCATION  | SETTING METHOD OF DESIGNATION LOCATION   | DESCRIPTION OF PRACTICAL METHOD  | EFFECTS (MERITS) OF RESPECTIVE EMBODIMENTS   |
|---|--|--|--|
| DESIGNATION LOCATION AND RANGE ARE LIMITED IN ADVANCE<br>↓<br>VOB_Info,<br>Cell_Info,<br>PGC_Info,<br>AND THE<br>LIKE | ASSURE DESCRIPTION COLUMN FOR DESIGNATING LINK INFORMATION IN COMMON INFORMATION [C] | <ul style="list-style-type: none"> <li>•ASSURE DESCRIPTION COLUMN INDICATING ID (OR NUMBER) OF LINK INFORMATION AT INFORMATION DESCRIPTION LOCATIONS PERTAINING TO CORRESPONDING VOBs, CELLS, PGCs IN VIDEO OBJECT INFORMATION 1107, PGC CONTROL INFORMATION 1103, AND CELL PLAYBACK INFORMATION 1108</li> <li>•COLUMN HAS NO ENTRY IF LINK INFORMATION IS NOT DESIGNATED</li> </ul> | <ul style="list-style-type: none"> <li>•SINCE TAG INFORMATION AND SUBSEQUENT INFORMATION INSERTED IN COMMON INFORMATION 2001 NEED NOT BE SKIPPED, READ ERROR IN COMMON INFORMATION 2001 HARDLY OCCURS IN INFORMATION PLAYBACK APPARATUS WHICH DOES NOT USE LINK INFORMATION</li> </ul> |

FIG.21C

| DESIGNATION LOCATION  | SETTING METHOD OF DESIGNATION LOCATION   | DESCRIPTION OF PRACTICAL METHOD   | EFFECTS (MERITS) OF RESPECTIVE EMBODIMENTS   |
|---|--|---|--|
| DESIGNATION LOCATION AND RANGE ARE LIMITED IN ADVANCE<br>↓<br>VOB_Info,<br>Cell_Info,<br>PGC_Info,<br>AND THE<br>LIKE | PROVIDE INFORMATION OF DESIGNATION LOCATION AND DESIGNATION RANGE IN COMMON<br>INFORMATION TO LINK INFORMATION [D] | <p>•CORRESPONDING DESIGNATION LOCATION AND DESIGNATION RANGE INFORMATION IN COMMON INFORMATION 2001 COMPLYING WITH STANDARDS ARE DESCRIBED IN LINK INFORMATION 2003, AS SHOWN IN FIG.13</p> <p>•IN FIG.13, BY DESIGNATING PRIORITY ORDER, A PLURALITY OF PARALLEL LINKS CAN BE DESIGNATED FROM ONE LINK INFORMATION TO A PLURALITY OF LOCATIONS IN COMMON INFORMATION 2001</p> <p>•THERE IS NO INFLUENCE ON CONTENTS OF COMMON INFORMATION 2001 IRRESPECTIVE OF PRESENCE/ABSENCE OF LINK INFORMATION 2003 AND SPECIFIC INFORMATION 2003</p> | <p>•SINCE TAG INFORMATION AND SUBSEQUENT INFORMATION INSERTED IN COMMON INFORMATION 2001 NEED NOT BE SKIPPED, READ ERROR IN COMMON INFORMATION 2001 HARDLY OCCURS IN INFORMATION PLAYBACK APPARATUS WHICH DOES NOT USE LINK INFORMATION</p> <p>•INFORMATION SIZE IN COMMON INFORMATION 2001 CAN BE MINIMIZED</p> <p>•INFLUENCE ON INFORMATION PLAYBACK APPARATUS THAT DOES NOT USE LINK INFORMATION IS MINIMUM</p> |

FIG.21D

| LINK INFORMATION<br>ALLOCATION | DESCRIPTION OF<br>DETAILED CONTENTS   | RELATIONSHIP WITH METHOD<br>OF SETTING DESIGNATION<br>LOCATION IN COMMON<br>INFORMATION (CORRESPONDING<br>TO SYMBOLS IN FIG.21) | EFFECTS (MERITS) OF<br>RESPECTIVE EMBODIMENTS   |
|--------------------------------|---|---|---|
| IN COMMON<br>INFORMATION 2001  | ALLOCATE IN PORTION<br>(E.G., IN EDIT CONTROL<br>INFORMATION 1023 LIKE<br>IN EMBODIMENT SHOWN IN<br>FIG.19) OF COMMON<br>INFORMATION 2001 | A, B, C, D  | WHEN USER ERRONEOUSLY<br>ERASE COMMON<br>INFORMATION 2001, SINCE<br>LINK INFORMATION IS<br>ERASED TOGETHER,<br>INFORMATION PLAYBACK<br>APPARATUS HARDLY CAUSES<br>OPERATION ERROR |

FIG.22A

| LINK INFORMATION<br>ALLOCATION  | DESCRIPTION OF<br>DETAILED CONTENTS                             | RELATIONSHIP WITH METHOD<br>OF SETTING DESIGNATION<br>LOCATION IN COMMON<br>INFORMATION (CORRESPONDING<br>TO SYMBOLS IN FIG. 21) | EFFECTS (MERITS) OF<br>RESPECTIVE EMBODIMENTS   |
|---------------------------------|---|--|---|
| IN SPECIFIC<br>INFORMATION 2002 | ALLOCATE IN PORTION OF<br>SPECIFIC INFORMATION<br>2002 TOGETHER | A, C, D  | WHEN USER ERRONEOUSLY<br>ERASES SPECIFIC<br>INFORMATION, SINCE LINK<br>INFORMATION IS ERASED<br>TOGETHER, INFORMATION<br>PLAYBACK APPARATUS<br>HARDLY CAUSES OPERATION<br>ERROR |

FIG. 22B

| LINK INFORMATION<br>ALLOCATION   | DESCRIPTION OF<br>DETAILED CONTENTS  | RELATIONSHIP WITH METHOD<br>OF SETTING DESIGNATION<br>LOCATION IN COMMON<br>INFORMATION (CORRESPONDING<br>TO SYMBOLS IN FIG. 21) | EFFECTS (MERITS) OF<br>RESPECTIVE EMBODIMENTS                      |
|--|--|--|--|
| ALLOCATE AT<br>ORIGINAL LOCATION<br>(DIFFERENT FROM<br>COMMON<br>INFORMATION 2001<br>AND SPECIFIC<br>INFORMATION 2002) | ALLOCATE ALL PIECES OF<br>LINK INFORMATION AT<br>ONE LOCATION TOGETHER           | A, C, D  | LINK INFORMATION IS<br>EASILY MANAGED IN UNITS<br>OF MANUFACTURERS |
|  | ALLOCATE LINK<br>INFORMATION USED IN<br>UNITS OF DRIVE<br>MANUFACTURERS TOGETHER |  |  |

FIG. 22C

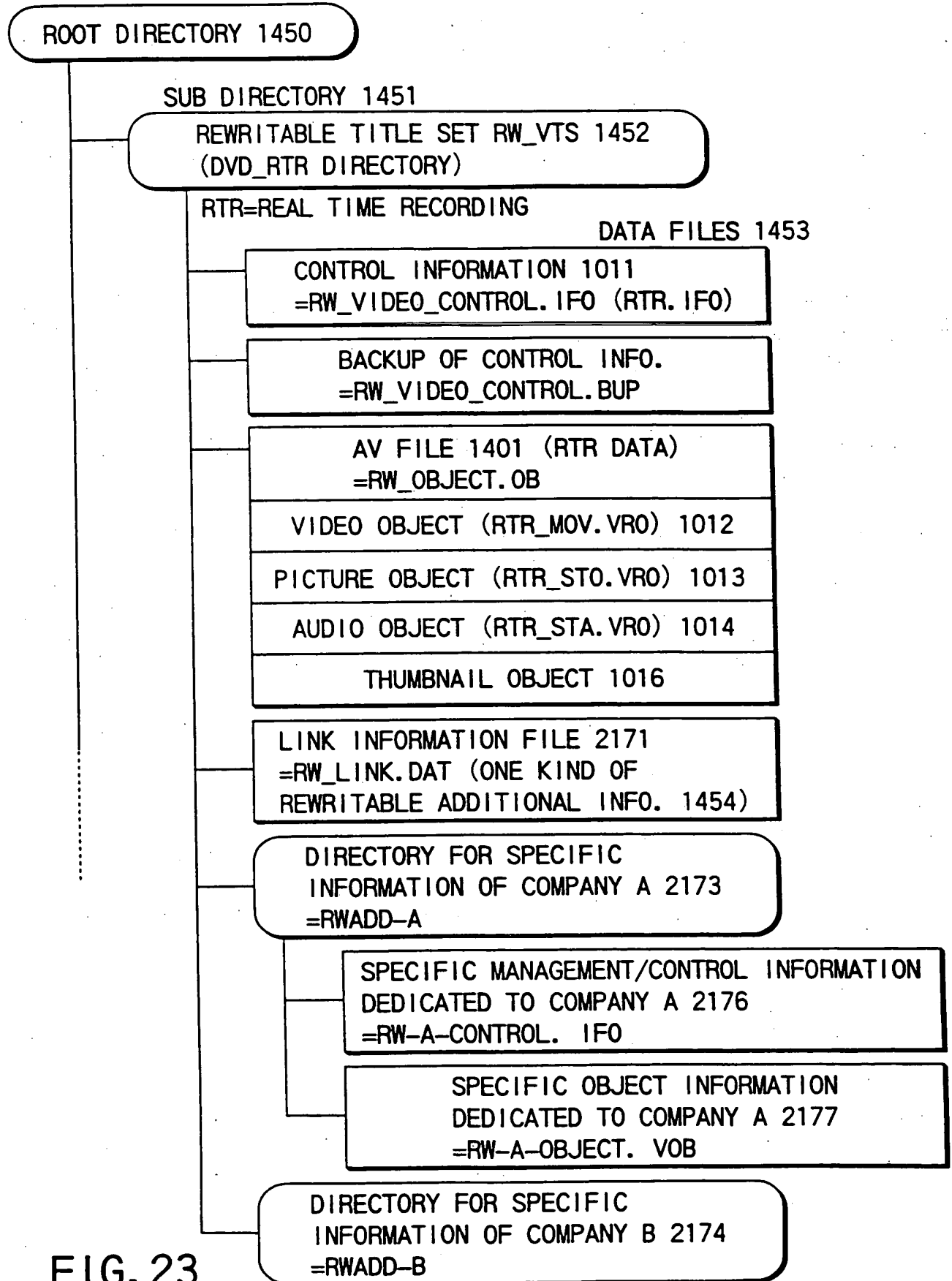


FIG. 23

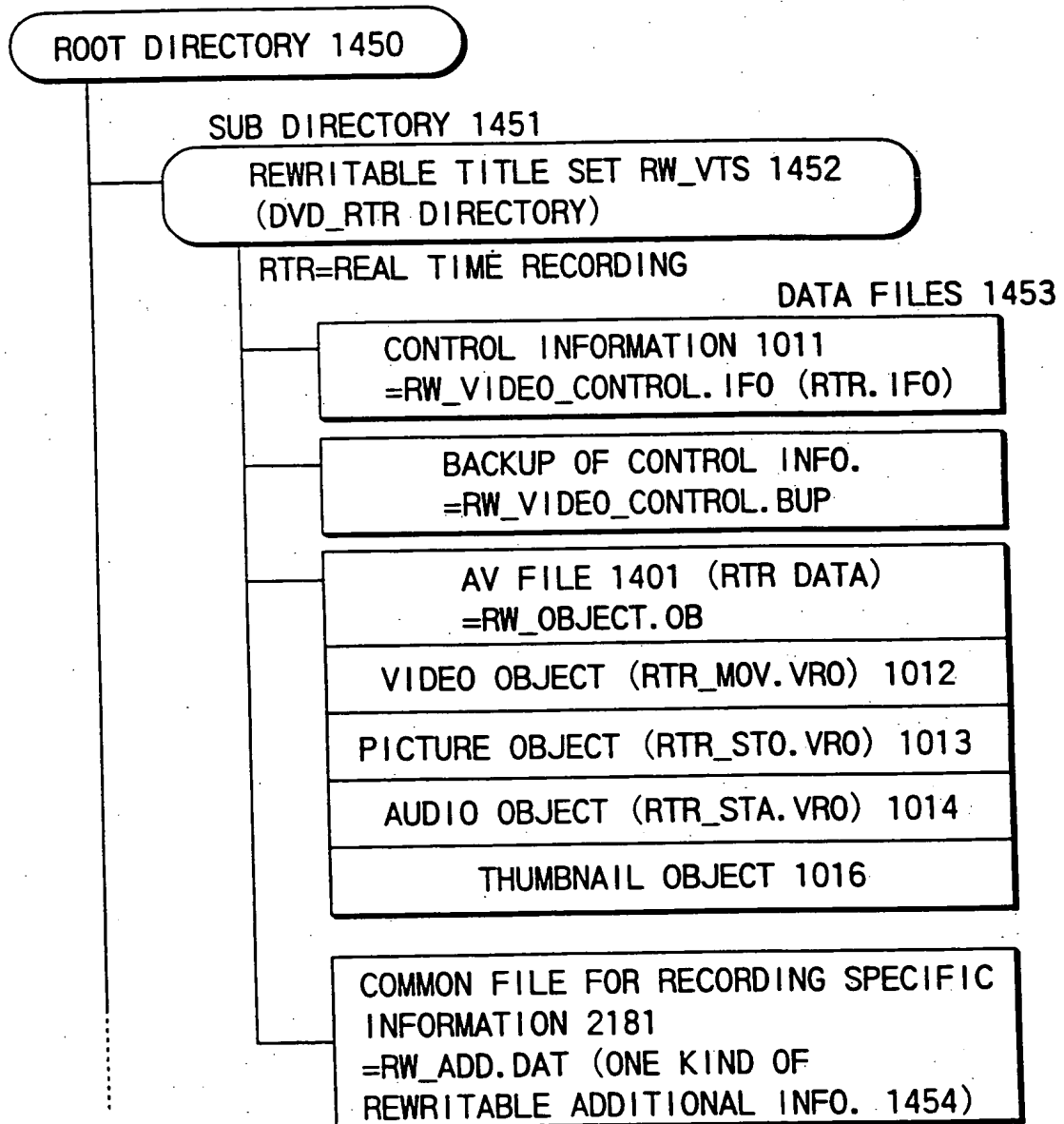


FIG. 24



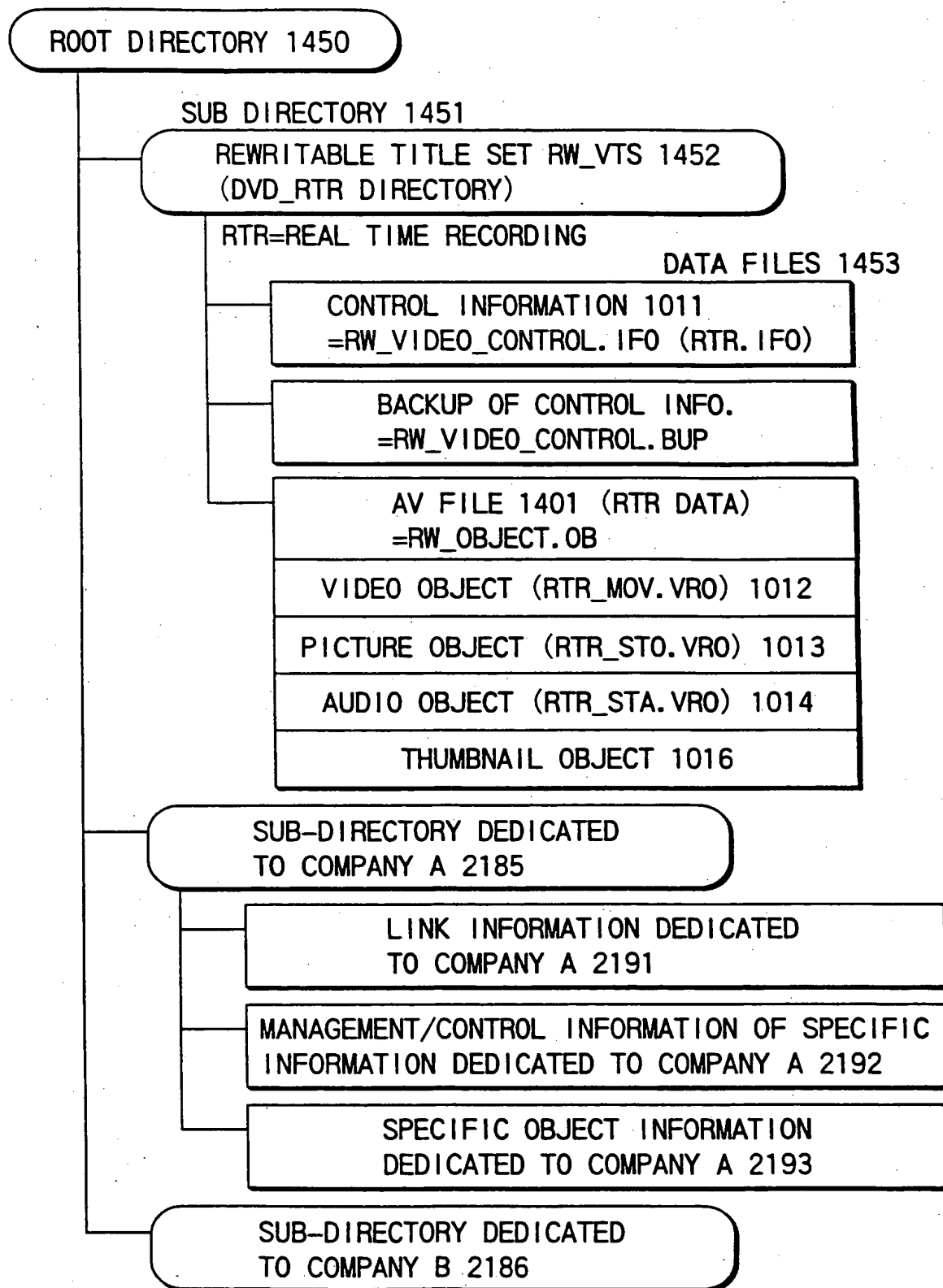


FIG. 25

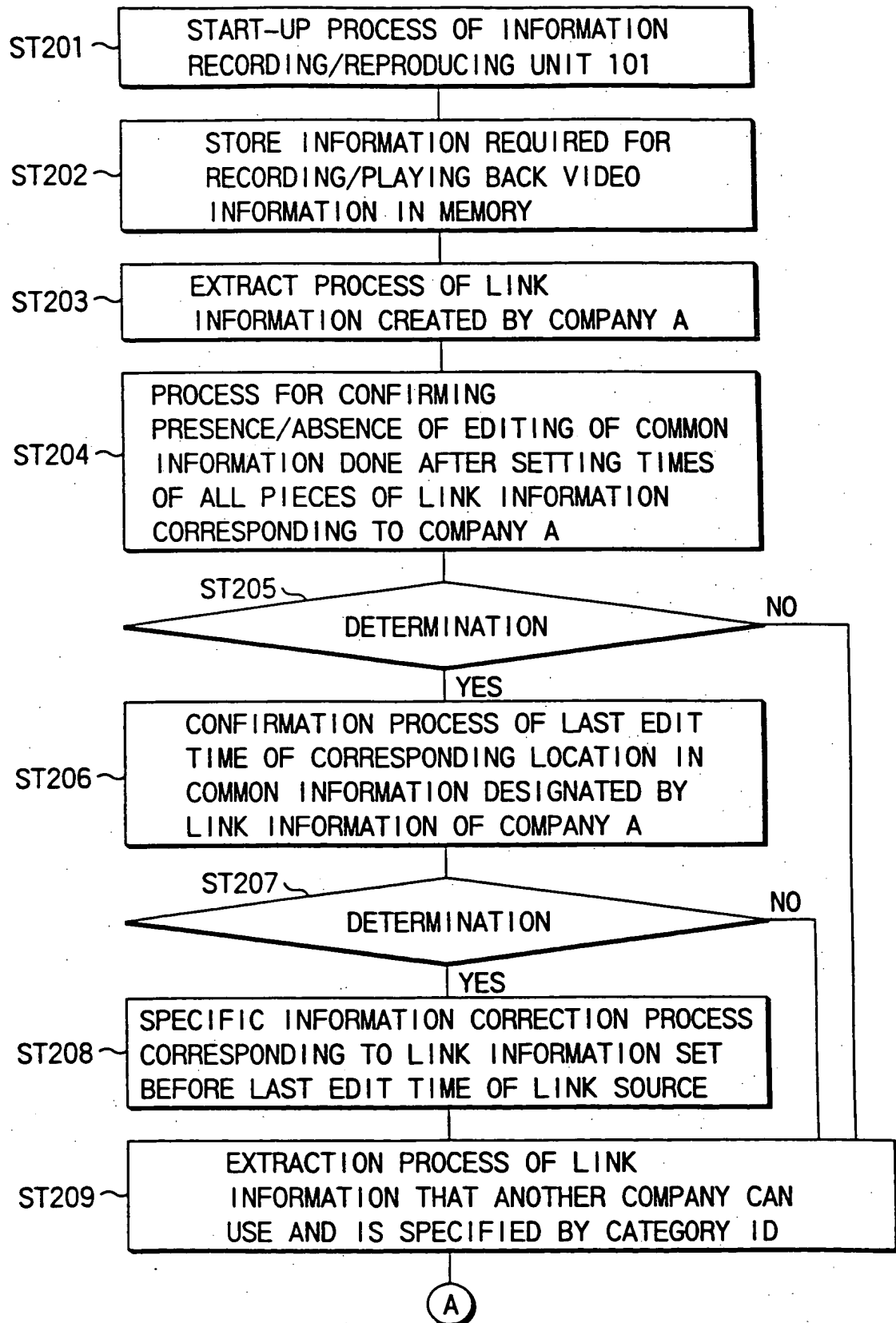


FIG. 26A

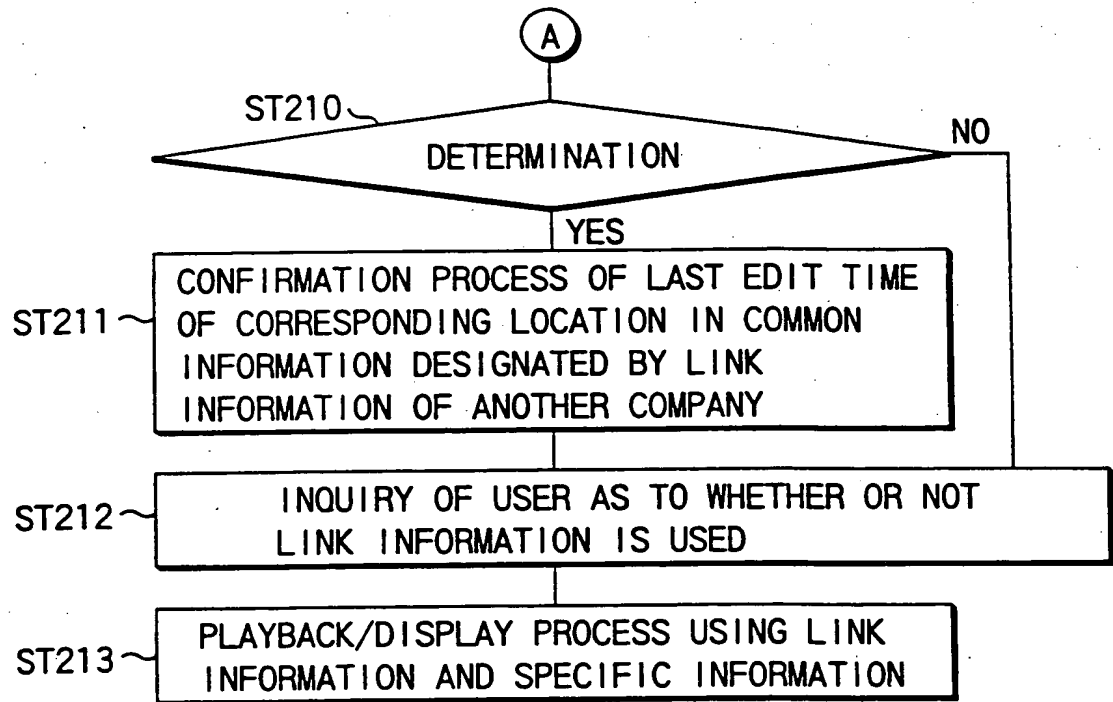


FIG. 26B

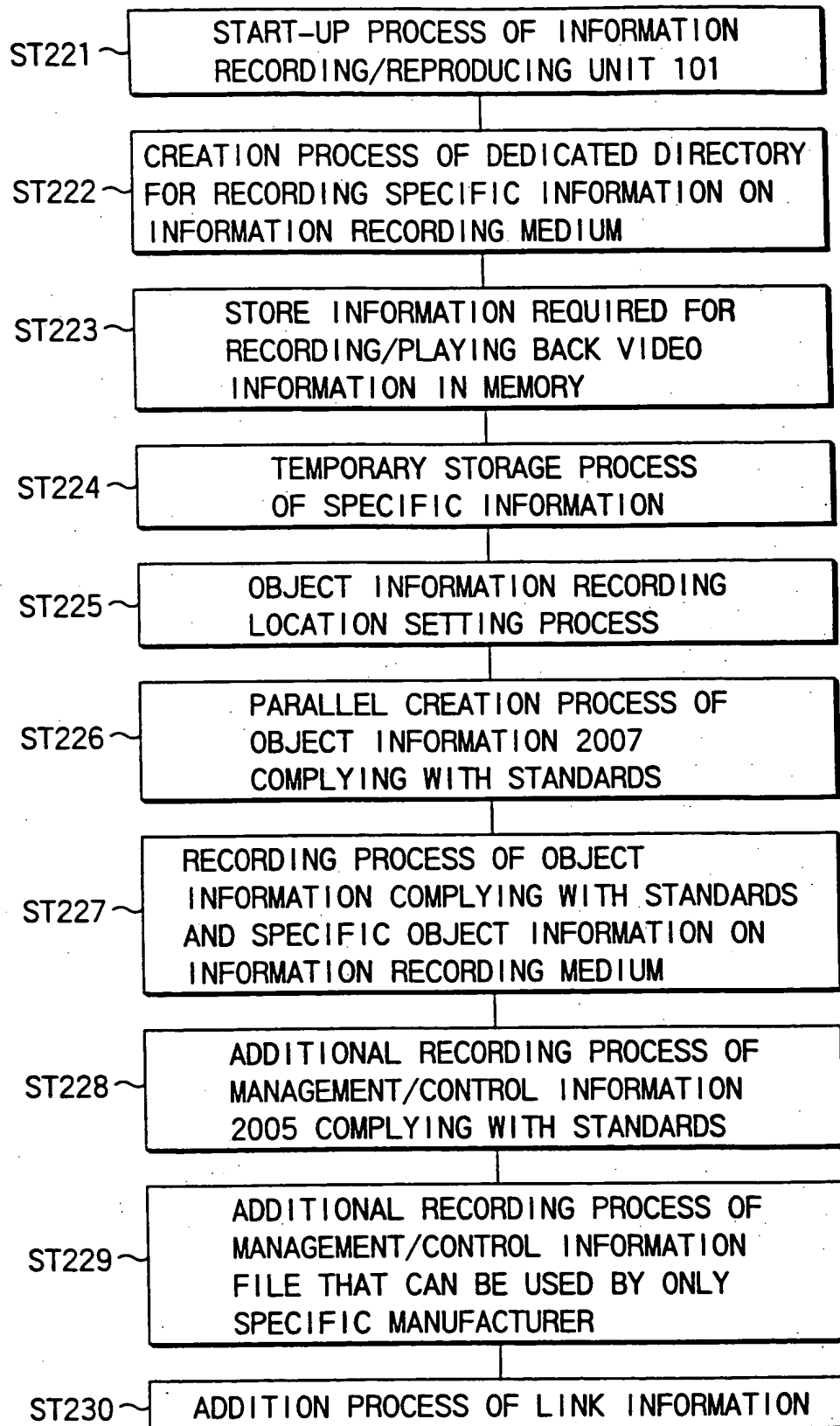


FIG. 27

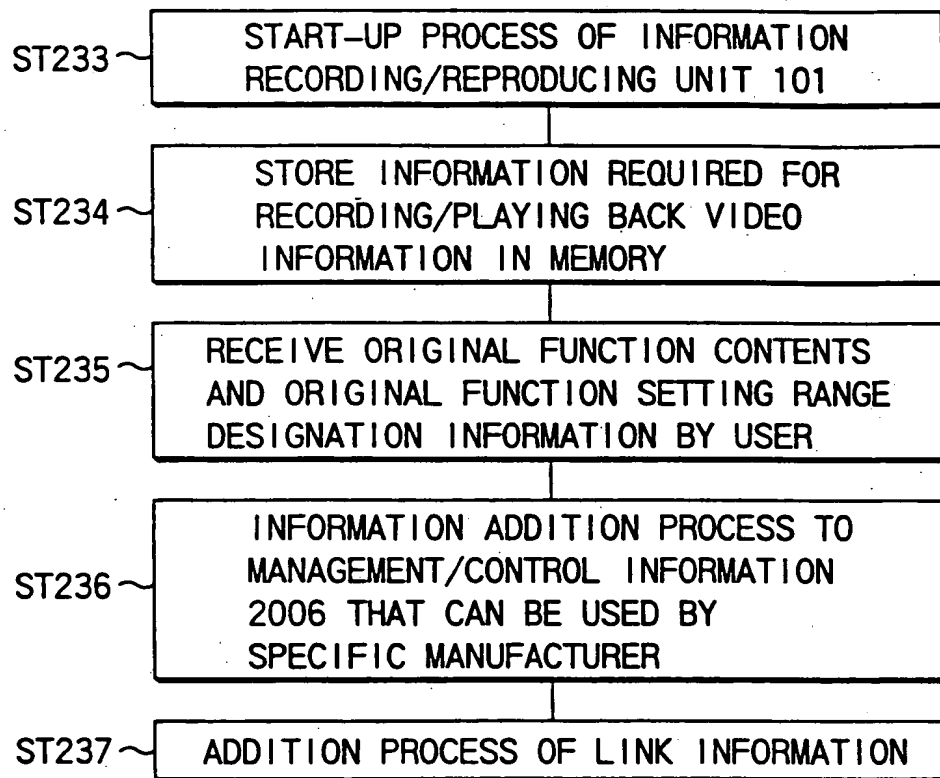


FIG. 28

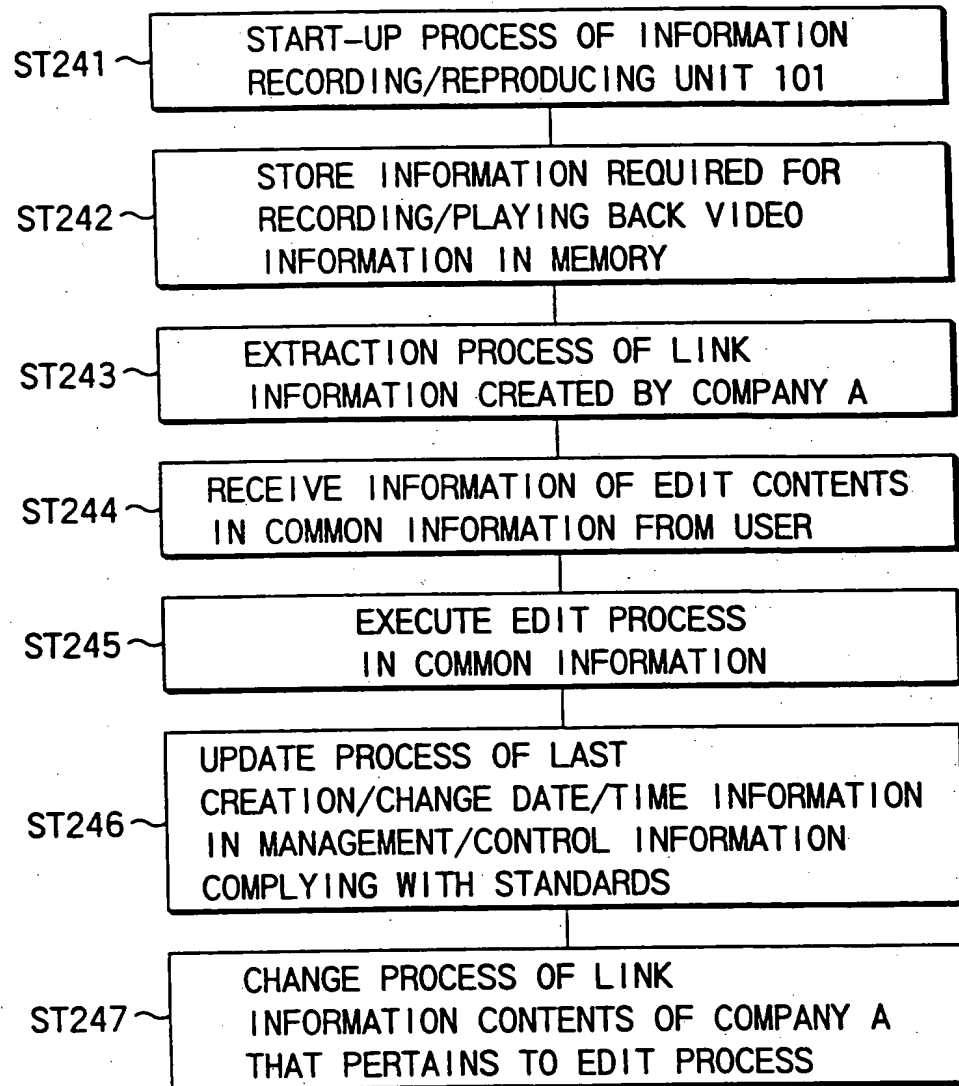


FIG. 29

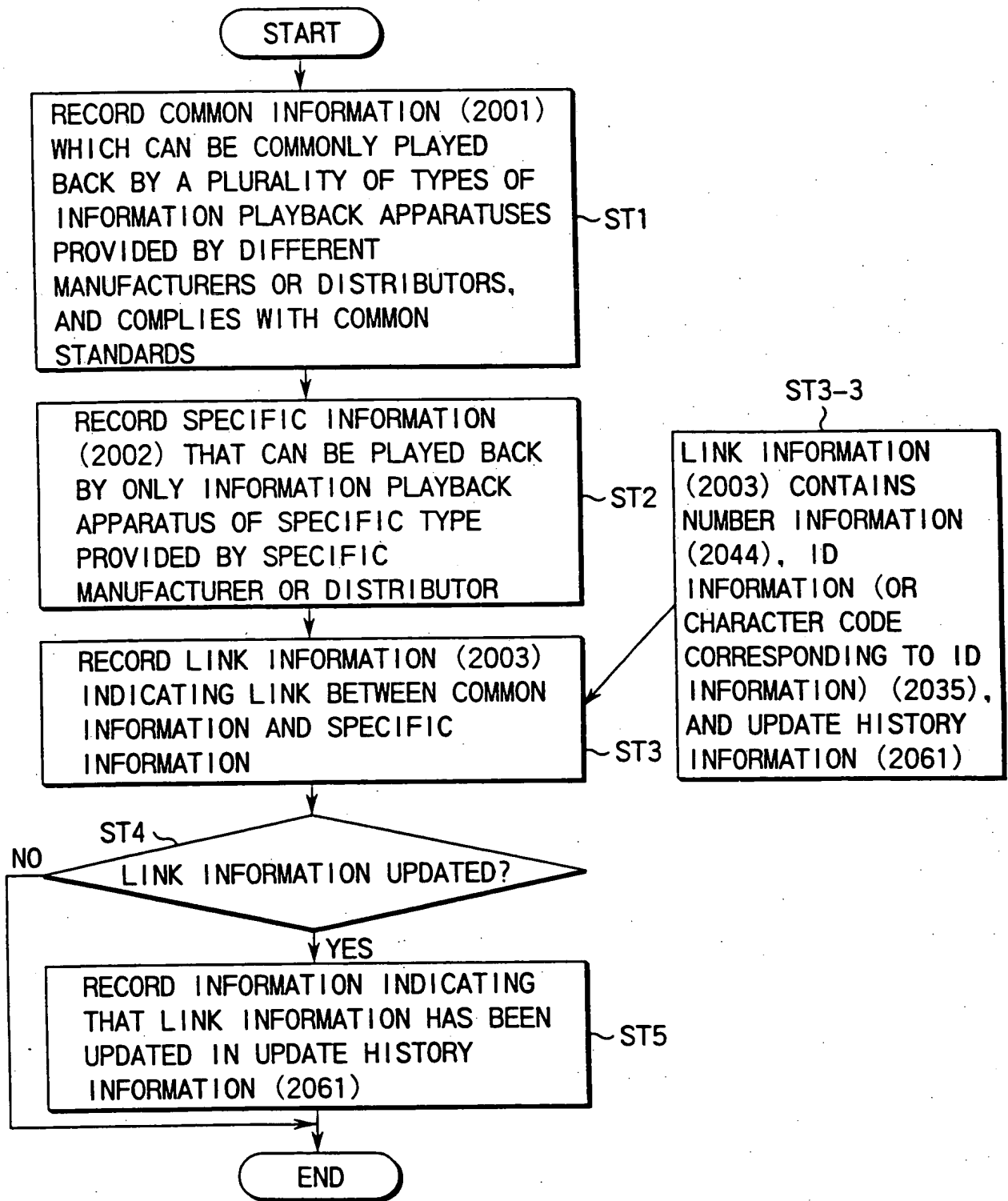


FIG. 30

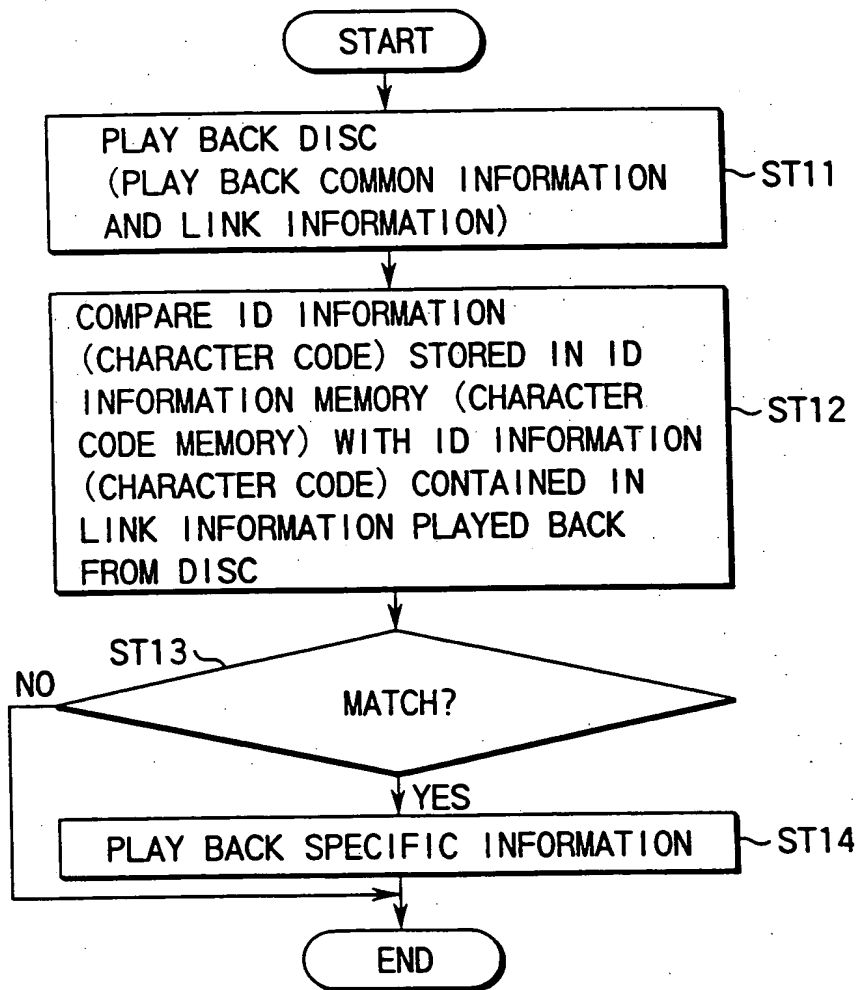


FIG. 31



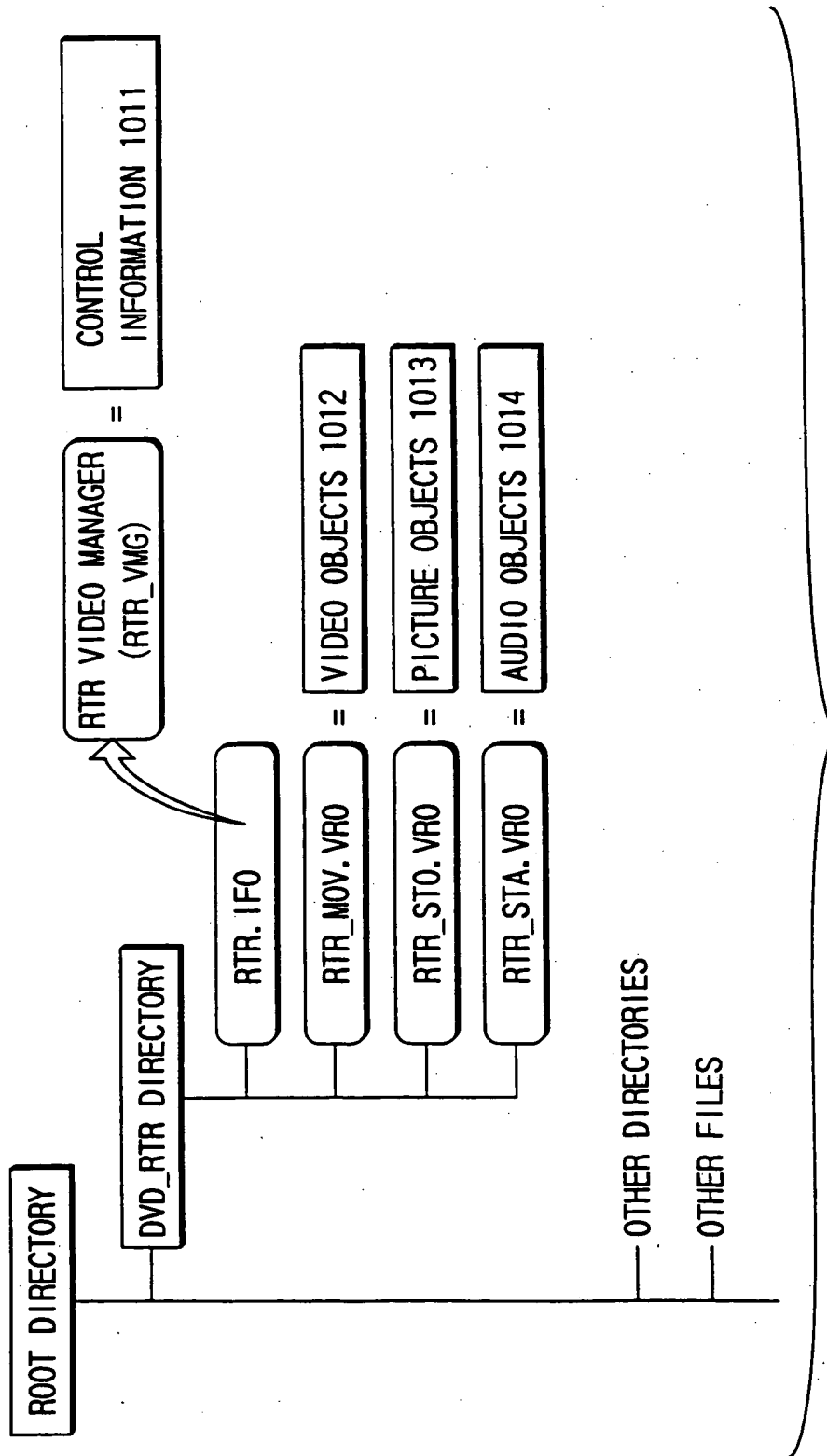


FIG. 32

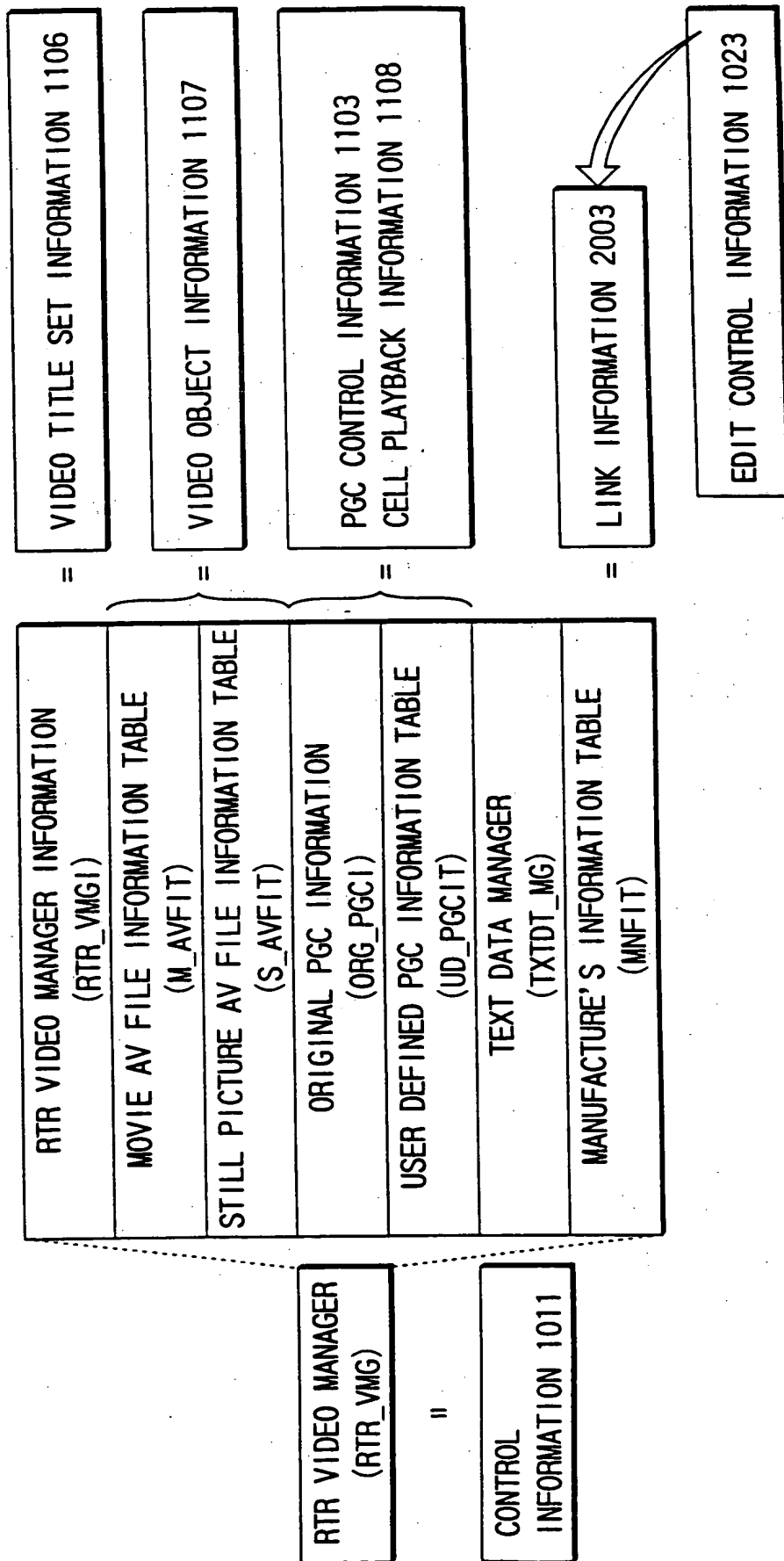


FIG. 33

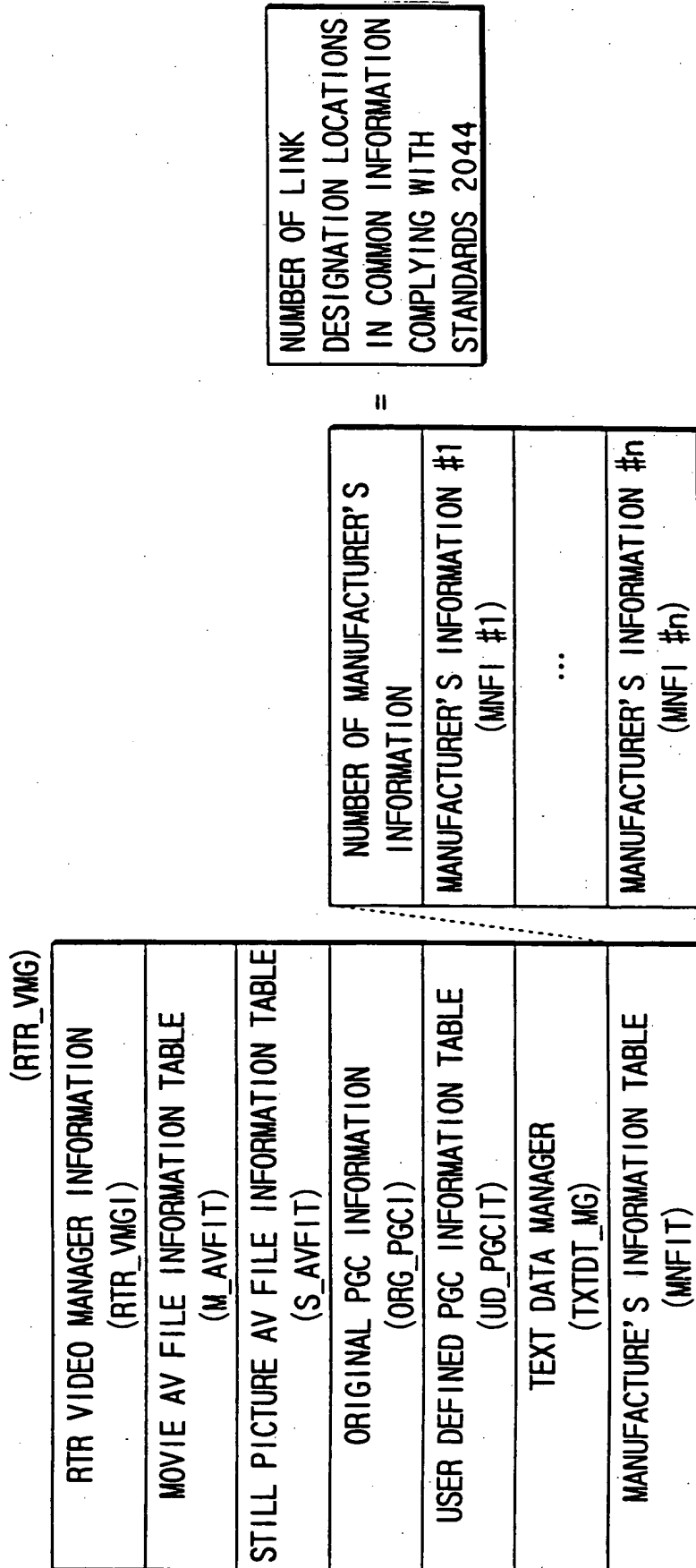


FIG. 34

| BBP      | FIELD NAME | CONTENTS                         | NUMBER OF BYTES          |
|----------|------------|----------------------------------|--------------------------|
| 0 TO 31  | MNF_ID     | MANUFACTURER ID                  | 32 BYTES                 |
| 32 TO 36 | REC_TM     | TIME WHEN THIS MNFI WAS RECORDED | 5 BYTES                  |
| 37 TO -  | MNFI_DT    | MANUFACTURER'S INFORMATION DATA  | VARIABLE LENGTH BYTES    |
| TOTAL    |            |                                  | 37+VARIABLE LENGTH BYTES |

DRIVE MANUFACTURER ID INFORMATION 2035

LAST RECORDING/CHANGE TIME (DATE) INFORMATION OF LINK INFORMATION 2061

FIG. 35